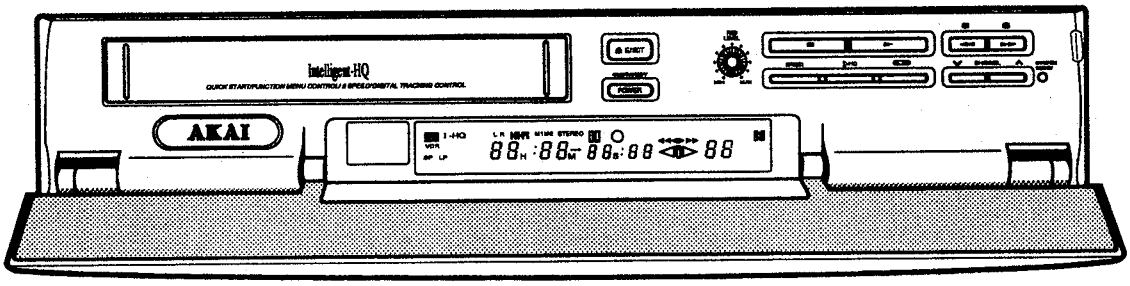
AKAI SERVICE MANUAL


Intelligent-HQ
EJECT
POWER
AKAI

MODEL VS-G64EOH-DN

HQ HIGH QUALITY VHS PAL Hi-Fi

SHOWVIEW

VIDEOPlus+

VIDEO CASSETTE RECORDER

MODEL VS-G60EA-D/EO-D/EK-N
EOH-D/EOH-N

MODEL VS-G64EK-N/EOH-DN
SV-EOH-DNV

MODEL VS-G65EOG-D/P-EOG-D

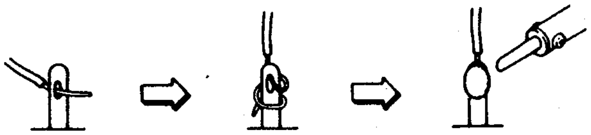
★SAFETY INSTRUCTIONS

PRECAUTIONS DURING SERVICING

1. Parts identified by the ⚠ (*) symbol are critical for safety. Replace them only with the parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation.

   These must also be replaced only with the specified replacements.

   Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers (insulating barriers)
   4) Insulation sheets for transistors
   5) Plastic screws for fixing micro switches
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap the ends of the wires securely around the terminals before soldering.



6. Make sure that wires do not contact heat producing parts (heat sinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Make sure that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

SAFETY CHECK AFTER SERVICING

After servicing, make measurements of leakage-current or resistance in order to determine that exposed parts are acceptably insulated from the supply circuit.

The leakage-current measurement should be done between accessible metal parts (such as chassis, ground terminal, microphone jacks, signal input/output connectors, etc.) and the earth ground through a resistor of 1500 ohms paralleled with a 0.15 µF capacitor, under the unit's normal working conditions.

The leakage-current should be less than 0.5 mA rms AC.

The resistance measurement should be done between accessible exposed metal parts and power cord plug prongs with the power switch (if included) "ON". The resistance should be more than 2.2 M ohms.

MAKE YOUR CONTRIBUTION TO PROTECT THE ENVIRONMENT

Used batteries with the ISO symbol for recycling as well as small accumulators (rechargeable batteries), mini-batteries (cells) and starter batteries should not be thrown into the garbage can. Please leave them at an appropriate depot.

★ SPECIFICATIONS

Format	
EA-D/EK-N	VHS standard
Except EA-D/EK-N	VHS standard (PAL, MESECAM)
Video recording system	Rotary, slant azimuth two-head helical scan system
Rotary heads	4 video heads & 2 audio heads
RF input	
EA-D	System B, G with monaural or multiplexed 2 channel audio VHF ch 0 - 5, 5A, 6 - 11 UHF ch 21 - 69
EK-N	System I with monaural or multiplexed 2 channel audio (NICAM) UHF ch 21 -69
EO-D	System B, G (PAL, SECAM) with monaural or multiplexed 2 channel audio VHF ch 2 - 4, 5 - 12, UHF ch 21 - 69 Cable ch S1' - S3', S1 - S20
EOG-D/EOH-D	System B, G (PAL, SECAM) with monaural or multiplexed 2 channel audio VHF ch 2 - 4, 5 - 12, UHF ch 21 - 69 Cable ch S1' - S3', S1 - S41
EOH-DN/EOH-N/ EOH-DNV	System B, G (PAL, SECAM) with monaural or multiplexed 2 channel audio (NICAM) VHF ch 2 - 4, 5 - 12, UHF ch 21 - 69 Cable ch S1' - S3', S1 - S41
RF output	
EA-D	System B type modulation VHF ch 0,1 switchable (preset ch 1)
EK-N	System I type modulation UHF ch 30 - 39 adjustable (preset ch 36)
EO-D/EOG-D/EOH-D /EOH-N/EOH-DN /EOH-DNV	System G type modulation UHF ch 30 - 39 adjustable (preset ch 36)
Recording (line input)	
EA-D/EK-N	PAL
Except EA-D/EK-N	PAL, SECAM (recorded as MESECAM)
Playback (line output)	
EA-D/EK-N	PAL
Except EA-D/EK-N	PAL, SECAM (MESECAM Tape)

Video	
Line input level	0.5 - 2.0Vp-p / 75 ohms, unbalanced
Line output level	1.0Vp-p / 75 ohms, unbalanced
S/N ratio	More than 45dB
Horizontal resolution	More than 250 lines
Audio	(VHS Hi-Fi: 2 ch, Linear: 1 ch)
Line input level	−6 dBs / 50k ohms, unbalanced
Line output level	−6 dBs / 1k ohms, unbalanced
Dynamic range	More than 90dB (VHS Hi-Fi)
Frequency response	20 - 20,000Hz (VHS Hi-Fi)
Wow & Flutter	Less than 0.005% WRMS (VHS Hi-Fi)
Recording/playback time	
SP mode	240min. with E-240 cassette
LP mode	480min. with E-240 cassette
Tape speed	
SP mode	23.39mm/sec
LP mode	11.695mm/sec
Quick finder	
SP mode	approx. 5 or 13 times normal speed
LP mode	approx. 3 or 7 times normal speed
FF, REW time	approx. 5.0 min. with E-180 cassette
Timer	
Program	8 programs / 1 year
Clock reference	Quartz crystal
Display	TV screen & FL (Tape counter, Timer etc.)
Power requirements	
EA-D/EK-N	240V AC, 50Hz
Except EA-D/EK-N	220 - 230V AC, 50Hz
Power consumption	28 W
Operating temperature	5°C - 40°C
Dimensions	425 (W) x 92 (H) x 358 (D) mm
Weight	
EA-D/EK-N/EOH-D	5.9 kg
EO-D	5.8 kg
EOG-D/EOH-N/ EOH-DN/EOH-DNV	6.0 kg

Standard accessories

Connection cord	1
Remote control unit	1
Batteries for remote control	2 or 3
Operator's manual	1

0 dBs = 0.775 V

* For improvement purposes, specifications and design are subject to change without notice.

* VIDEO PLUS+ AND PLUSCODE ARE TRADEMARKS OF GEMSTAR DEVELOPMENT CORP. VIDEO PLUS+ SYSTEM IS MANUFACTURED UNDER LICENCE FROM GEMSTAR DEVELOPMENT CORPORATION.

* SHOWVIEW IS A TRADEMARK OF GEMSTAR DEVELOPMENT CORP. SHOWVIEW SYSTEM IS MANUFACTURED UNDER LICENCE FROM GEMSTAR DEVELOPMENT CORPORATION.

★ INFORMATION

SYMBOLS OF MODEL NAMES FOR PRIMARY DESTINATION

The symbols below indicate the destination of each unit.

Symbol	Power Classification	Principal Destination	TV System	
			Color	Broadcast
EA	S	Australia	PAL	B,G
ED	E	China	PAL	D
EDG	E	East Europe	PAL	D,K
EDI	E	China, Hong Kong	PAL	D,K, I
EG	E	Spain, Nothern Europe, Other	PAL	B,G
	Y7	Saudi Arabia		
EK	B	U.K	PAL	I
	Y1	Hong Kong		
EM	E	Middle East	PAL	B,G
	Y7	Saudi Arabia		
EO	E	Holland, Switzerland, Nothern Europe	PAL	B,G
	V	Italy		
EOH	E	Holland, Belgium	PAL	B,G
	V	Italy		
EOG	V	Germany	PAL	B,G
ES	E	South Africa, Ireland, Hong kong	PAL	I
EV	E	South-East Asia	PAL	B,G
	U	Middle East, South -East Asia		
	Y1	New Zealand		
	Y7	Saudi Arabia		
EZ	S	New Zealand	PAL	B,G
EGN	E	Middle East	PAL,NTSC	B,G
	Y7	Saudi Arabia		
S	E	France	SECAM	L
SK	E	Latin America, Oceania, SECAM-OIRT	SECAM	K,K1
SEG	E	France, Switzerland	SECAM, PAL	L,B,G
U	A	U.S.A	NTSC	M
	C	Canada		
UM	U	Latin America	NTSC	M
J	J	Japan	NTSC	M

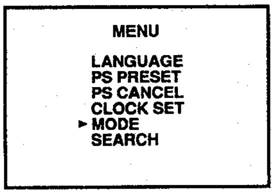
MULTI-FUNCTION MENU MODE

This is an on-screen display of the various modes you can programme via the TV screen.

LANGUAGE	: To select a language for the on-screen displays.
PS PRESET	: To preset TV stations.
PS CANCEL	: To cancel preset TV stations.
CLOCK SET	: To set the clock.
MODE	: To select the BLANK SKIP PLAY, TAPE SPEED, AV MUTE, ON SCREEN DISPLAY, STEREO mode, VPS or PDC mode and VIDEO SYSTEM mode (PDC, VPS and VIDEO SYSTEM selection is not available on some models).
SEARCH	: To select the BLANK SEARCH and INTRO SCAN modes.

If necessary, refer to the respective sections in the operator's manual for detailed information.

1. Press the "MENU" button on the remote control unit. The menu list screen will be displayed on the TV screen.



2. Select the desired mode by setting the arrow indicator to the appropriate position with cursor "∨" button. The arrow indicator moves downwards each time the button is pressed. Pressing the cursor "∧" button will move the arrow indicator upwards.

3. Press the "OK" button. The selected function screen will be displayed on the TV screen.

* Press the "MENU" button again to return to the normal screen.

MANUAL TRACKING/PICTURE/STABILITY ADJUSTMENT

The VCR can be adjusted for tracking and picture sharpness anytime it is in the playback mode with the remote control unit.

- **Manual tracking control**
  Press the "<" or ">" cursor botton repeatedly until the picture is clear. During manual tracking adjustment, the tracking position is shown on the TV screen, this will disappear automatically after adjustment has been completed. Use this function when performing the A/C HEAD phase adjustment.

- **Picture sharpness control**
  Press the "∧" button repeatedly to sharpen the picture or press the "∨" button to soften the picture.

- **Stability adjustment**

1) To correct picture shake during the slow motion or still mode:
   Press "∧" or "∨" cursor button until the picture shake is corrected.
2) To correct tracking during the still mode:
   Press the "<" or ">" cursor button repeatedly until the picture is clear.

PRESETS IN THE TEST MODE

* To set the VCR to the TEST MODE, press and hold both the "POWER" and "EJECT" buttons on the front panel, then plug in the AC power cord. Next, press the "POWER" button to turn the power on.
The TEST MODE can be cancelled by disconnecting the AC power cord or simply by pressing the "SYSTEM RESET" button.

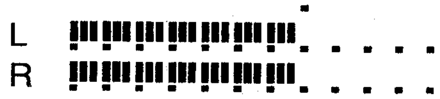
1) MEMORIZATION OF THE REFERENCE RF ENVELOPE DETECT VOLTAGE (I-HQ)

For the purpose of correct operation of the I-HQ tape tuning system, memorization of the reference RF envelope detect voltage is absolutely necessary.
When the VIDEO HEAD DRUM, PRE AMP PCB or EEP ROM in the OPERATION PCB is replaced for any reason, memorize the reference RF envelope detect voltage according to the following procedure.

1. Set the tape speed to "SP mode".
2. Make a recording on the TEST TAPE "TF-556AT" (AT-751822J) and rewind it to the exact point where the recording was started.
3. Set the VCR to the "test mode" then start playback.
4. Reference RF envelope detect voltage data in the memory is displayed in the seconds display part of the FL display in 2 digits and the present envelope detect voltage data is displayed in the right 2 digits of the seconds display part (the data is displayed in hexadecimal numbers).
5. After the auto tracking is activated, press the "CANCEL" button on the remote control unit. So, present RF envelope detect voltage data will be transferred to the left 2 digits and memorized in the EEP ROM IC.
6. Cancel the "test mode" then set the tape speed to "LP mode" and repeat the steps 2 to 5.

2) AUDIO LEVEL METER SENSITIVITY PRESET

1. Engage the test mode and press the "POWER" button.
2. Input a 1 kHz −6.0 dBs sinewave signal to the AUDIO IN terminal and connect an AC milli-voltmeter to the AUDIO OUT.
3. Set the REC LEVEL volume on the front panel at the center position. Adjust the output level of the AUDIO SIGNAL GENERATOR so that L-CH output level is −5.0 dBs. Confirm that the R-CH output level is −5.0 ± 1.0 dBs at this point.
4. Press the display control button on the remote control unit until the audio level meter appears on the TV sereen.
5. Press both the "▷▷" and "◁◁" buttons on the front panel at the same time. A −5.0 dBs level will be referenced by the micro computer. The micro computer determines bar meter sensitivity according to this level. Change the AUDIO SIGNAL GENERATOR output slightly and confirm that the bar meter's 0 VU position turns on when the L-CH output level is reached −6.0 ±1dBs. If the result is not satisfactory, change the reference level (−5.0 dBs) slightly and repeat steps 3 to 5.

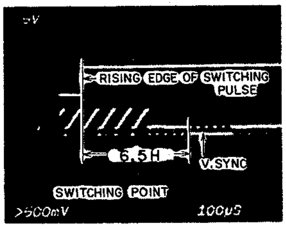


3) OTHER FACILITIES IN THE TEST MODE.

1. TRACKING POSITION DISPLAY
   In the SP play mode, tracking position data can be displayed on the FL display. Data is displayed in 64 steps (in hexadecimal numbers from "00" to "3F") in the minute segments of the tape counter on the FL display. Pressing the "TV/VCR" button sets tracking to the maximum "3F" tracking position directly during playback and pressing the "COUNTER RESET" button sets it to the minimum "00" position.
   Pressing the PLAY button during playback sets tracking to the center position automatically.
2. SUSPENSION OF THE TAPE PROTECTION SYSTEM
   When the VCR is not in the TEST MODE, the REC PAUSE mode will be released after 30 minutes in order to protect the tape. The "STILL" mode will also be released after 5 minutes. During the TEST MODE however, the tape protection system will not operate.

VIDEO HEAD SWITCHING POINT CONFIRMATION

1. Connect CH-1 of an oscilloscope to the VIDEO OUT and CH-2 to the TP1 on the PRE AMP PCB for triggering.
2. Play back the test tape TF-530RFS (AT-751775) and adjust the tracking to the center position with the remote control unit. (At this point, the A/C head phase adjustment must be correctly adjusted before this adjustment. Refer to step 4-3-3 and confirm that the RF envelope is maximum at the tracking center position.)
3. Confirm that the switching point is positioned 6.5 ± 1.5 H from the leading edge of the V-sync. If the result is not satisfactory, adjust the ROTARY PLATE installation position. (There is some play between the Ⓐ screw and hole on the ROTARY PLATE, refer to Fig. 3-23). If the divergence is too much (out of adjustable range), adjust the DRUM MOTOR PCB installation position until the result is satisfactory (refer to Fig. 3-22).



Note:

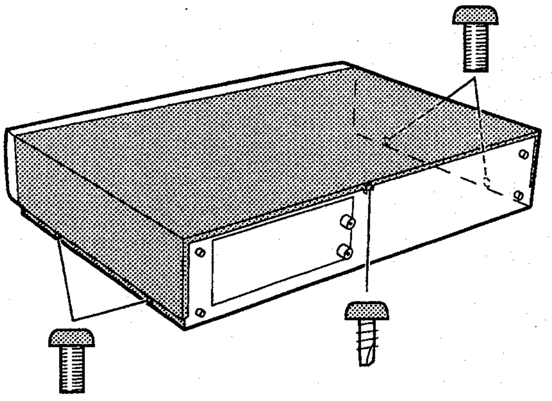
SWITCHING POINT confirmation is absolutely necessary when the following conditions.

1. When the DRUM MOTOR PCB, UPPER DRUM or whole HEAD ASSEMBLY is replaced.
2. When the IC2 (ST24C02) on the OPERATION PCB is replaced.

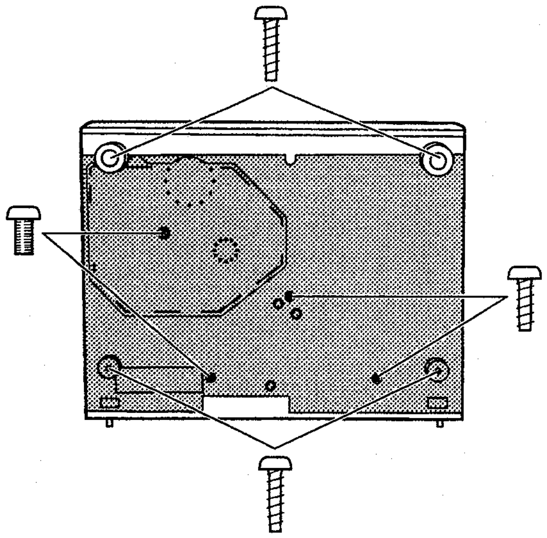
I. DISASSEMBLY

In case of trouble,etc. necessitating dismantling, please dismantle in the order shown in the illustrations.
Reassemble in the reverse order.
When reattaching the FRONT PANEL, hold the cassette loading slot door in the upright (open) position.

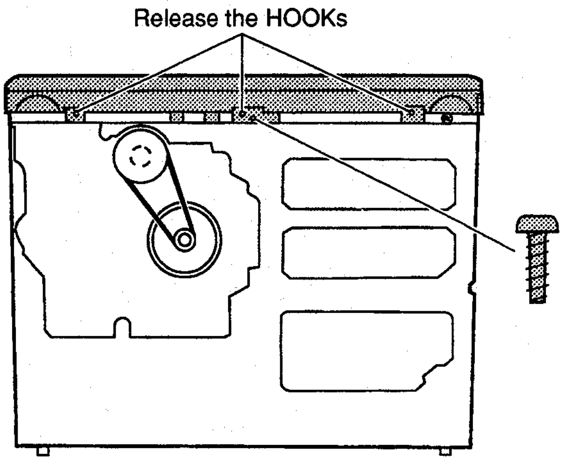
1. Removal of UPPER COVER

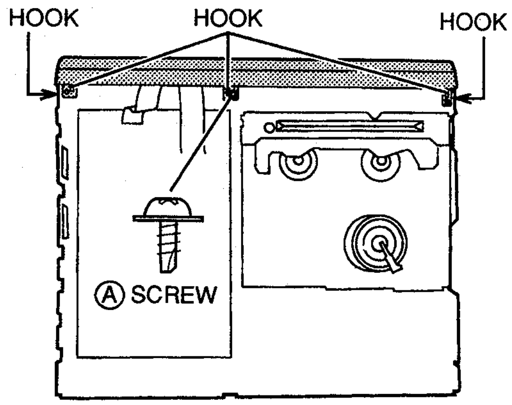


2. Removal of BOTTOM COVER



3. Removal of FRONT PANEL





* Disconnect the P9 and P410 connectors on the MAIN PCB, P8 connector on the POWER SUPPLY PCB and P1 connector on the VPS/PDC PCB (if attached) before removal.

II. PRINCIPAL PARTS LOCATION

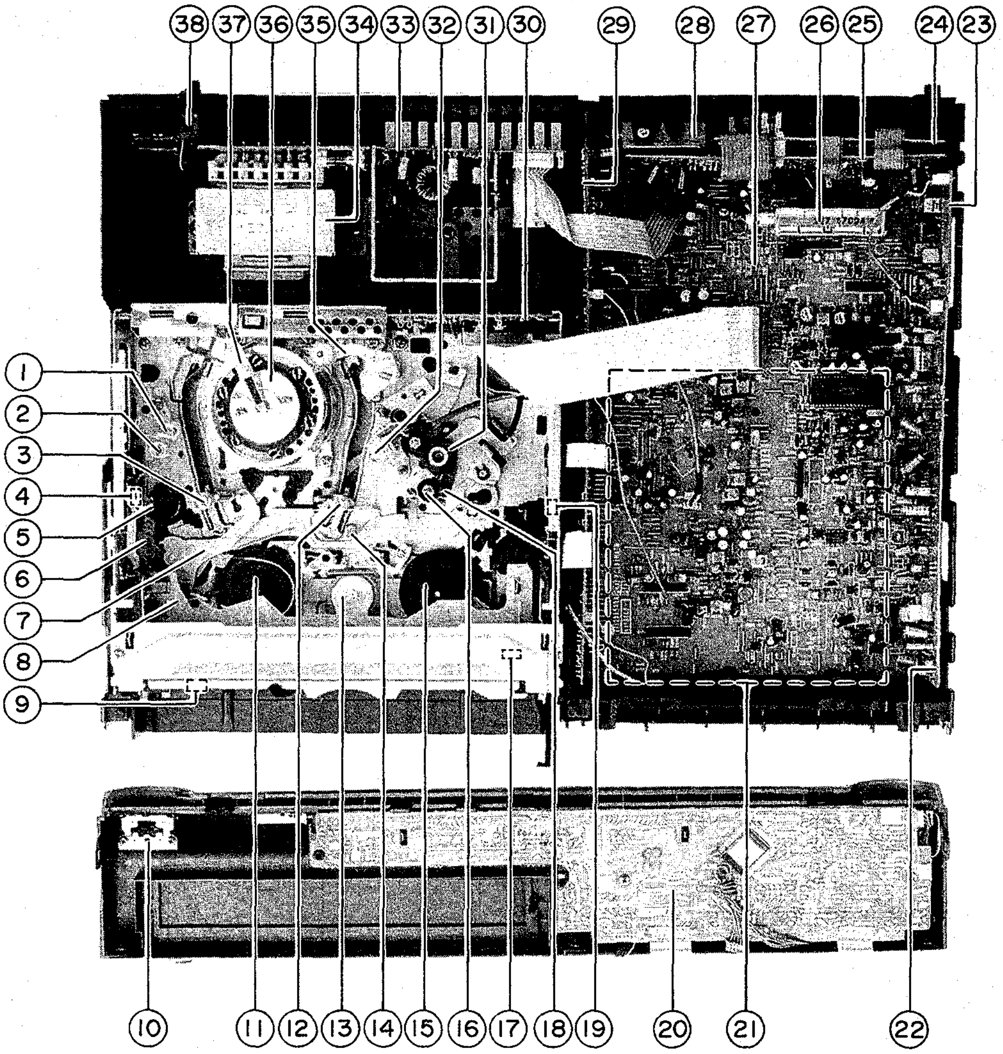


Fig. 2-1 Top view

1. FULL TRACK ERASE HEAD	21. VPS PCB (EOG ONLY) PDC PCB (SV-EOH-DNV ONLY)
2. SUPPLY TAPE GUIDE	22. D-NICAM PCB (EK, EOH-N/DN/DNV ONLY) D-MULTI PCB (EA, EO, EOH-D, EOG ONLY)
3. SUPPLY LOADING LEADER	23. VIF UNIT
4. SENSOR (S) PCB (END SENSOR)	24. IN-OUT (B) PCB
5. FRONT LOADING GEAR	25. IN-OUT (A) PCB
6. FRONT LOADING SLIDER	26. TV TUNER
7. TENSION ARM	27. MAIN PCB
8. CASSETTE LOAD BLOCK	28. RF CONVERTOR
9. REC SAFETY SWITCH	29. SERVO/SYSCON PCB
10. DOOR POSITION DETECT PCB	30. PRE AMP PCB
11. SUPPLY REEL TABLE	31. PINCH ROLLER BLOCK
12. SUPPLY LOADING LEADER	32. AUDIO/CONTROL/S. ERASE HEAD
13. IDLER PART	33. POWER SUPPLY PCB
14. SENSOR LED	34. POWER TRANSFORMER
15. TAKE UP REEL TABLE	35. HEAD CLEANER BLOCK
16. CAPSTAN MOTOR	36. VIDEO HEAD DRUM BLOCK
17. S-VHS DETECT SW	37. EARTH BRUSH
18. REVIEW ARM PART	38. INLET PCB
19. SENSOR (T) (START SENSOR)	
20. OPERATION PCB	

* Photograph employed on this page is of model VS-G64EOH-DN.

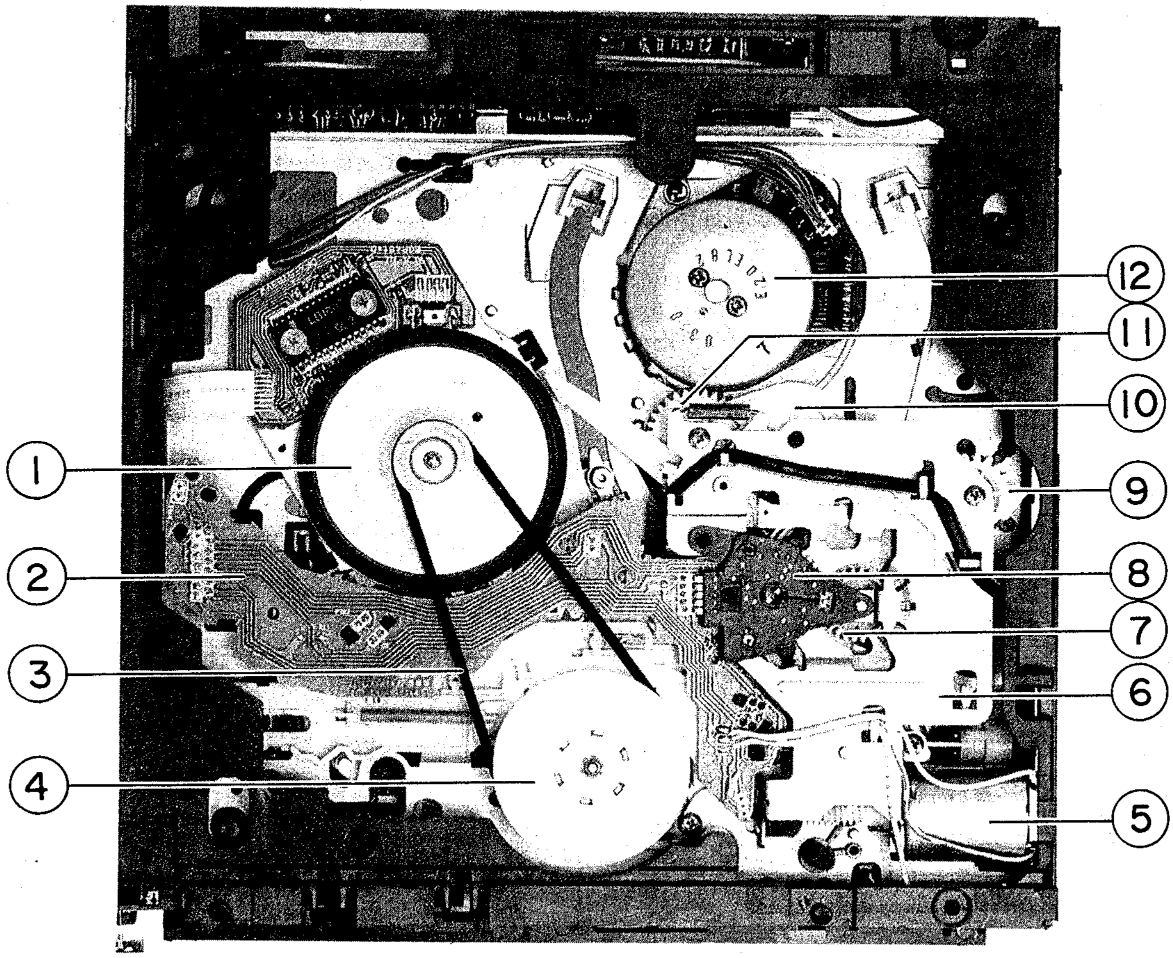


Fig. 2-2 Bottom view

1. CAPSTAN MOTOR BLOCK
2. SENSOR PCB
3. CAPSTAN BELT
4. CLUTCH DISK PART
5. LOADING MOTOR
6. LOADING DRIVE BLOCK
7. CAM SLIDER GEAR
8. MODE SELECT SWITCH
9. FRONT LOADING GEAR
10. TOGGLE (S) GEAR BLOCK
11. TOGGLE (T) GEAR BLOCK
12. DRUM MOTOR BLOCK

III. MAIN COMPONENTS REPLACEMENT

3-1.REMOVAL OF THE EJECTOR BLOCK

Set the loading mechanism to the "EJECT" position by pressing the EJECT button. Then disconnect the AC power plug from the AC socket before proceeding.

3-1-1. Removal of the CASSETTE LOAD BLK

1) Remove the two Ⓐ screws on the UPPER PLATE, as shown in Fig. 3-1 then remove the UPPER PLATE.
2) Lift up the FRONT GUIDE while pushing the CASSETTE LOAD BLK backwards, then remove the FRONT GUIDE.
3) Gently lift up the front side of the CASSETTE LOAD BLK, then remove it. To avoid damaging the pins of the CASSETTE LOAD BLK and the groove of the MECHA. FRAME, do not use excessive force when removing the CASSETTE LOAD BLK.

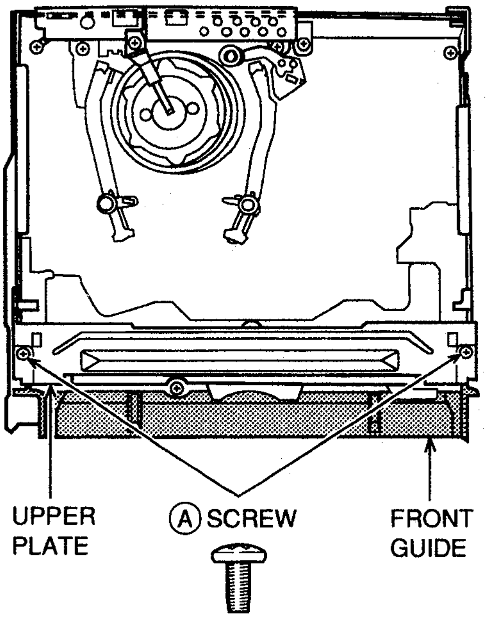


Fig. 3-1

3-1-2. Removal of the LOADING ARM BLK

1) Release the stopper on the right side end of the LOADING ARM BLK's shaft (Refer to Fig. 3-2) by pressing the stopper tab with a flat head (—) screwdriver. Then remove the shaft's right end from the bracket.

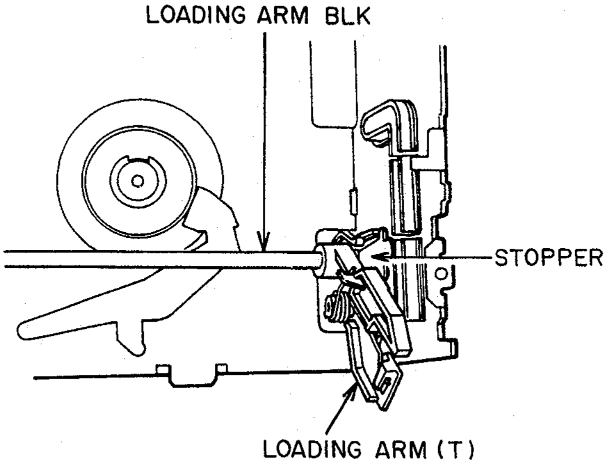


Fig. 3-2

2) Hold the LOADING ARM (T) and turn it 30 degrees clockwise, then pull out the shaft's left end from the bracket. Take special care when removing it to avoid damaging the JOINT and EJECT GEARs. (Refer Fig. 3-3)

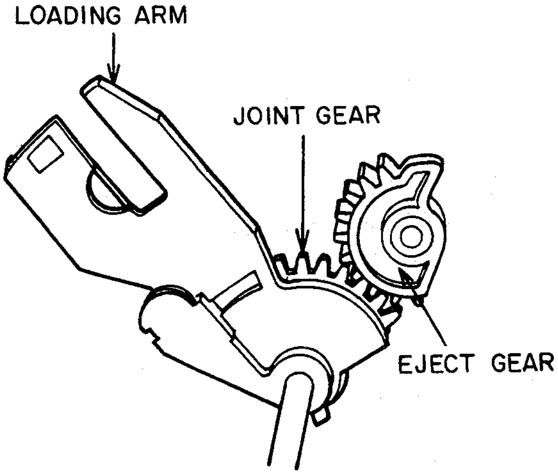


Fig. 3-3

3-2. REMOVAL OF THE SENSOR PC BOARD

∗ Before proceeding with removal of the SENSOR PCB, the loading mechanism must be set to the "unloaded" position (the position where the CAM SLIDER GEAR's groove mark is visible through the hole of the MODE SELECT SW.) as shown in Fig. 3-4.

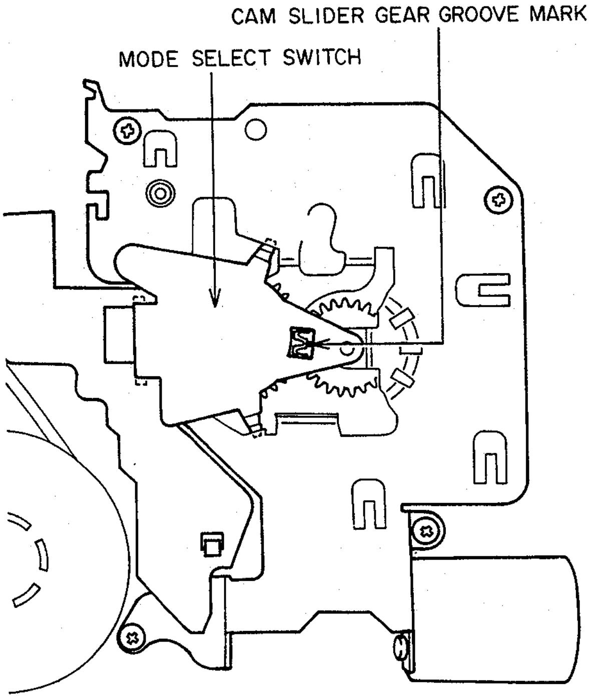


Fig. 3-4

To set the loading mechanism to the "unloaded" position, proceed with one of the following procedures.

1) Insert a video cassette tape which you no longer need. Once the tape has been loaded or has entered the "play" mode, press the POWER button to turn the power off. Disconnect the AC power plug from the AC socket after the cassette tape has been unloaded.
2) Remove the UPPER PLATE, FRONT GUIDE and CASSETTE LOAD BLK. (Refer to 3-1-1. Removal of the CASSETTE LOAD BLK.)
   Plug in the AC power cord. The LOADING ARM BLK will move backward and forward continuously. With your fingers, cover and hold both the SENSOR (S) and SENSOR (T) at the same time when the LOADING ARM BLK is in the backward position. The unit will enter the "play" mode without a cassette tape. Then release your fingers from both the sensors at the same time. After about 10 seconds (when the PINCH ROLLER is disengaged from the CAPSTAN and the SUPPLY REEL stops rotating), press the POWER button on the OPERATION PCB. The mechanism will be set to the "tape unloaded" position a few seconds later.
   Disconnect the AC power plug from the AC power socket.

3-2-1. Removal of the MODE SELECT SWITCH

1) Release the two Ⓐ stoppers as shown in Fig. 3-5.

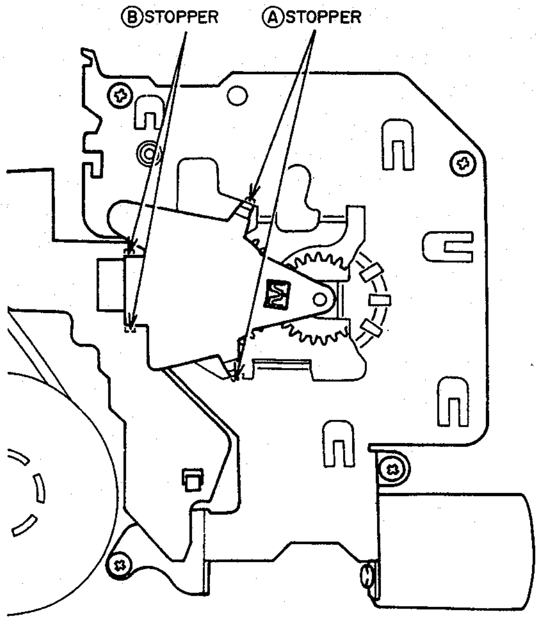


Fig. 3-5

2) Release the two Ⓑ stoppers carefully while pulling up the MODE SELECT SWITCH. Then remove the MODE SELECT SWITCH. (Do not damage the pins of the MODE SELECT SWITCH or the P1 connector on the SENSOR PCB).

3-2-2. Removal of the SENSOR PC Board

1) Disconnect the connector P617 on the SERVO/SYSCON PCB.
2) Remove the capstan belt.
3) Release the Ⓐ, Ⓑ and Ⓒ stoppers as shown in Fig. 3-6. Then remove the SENSOR PCB.

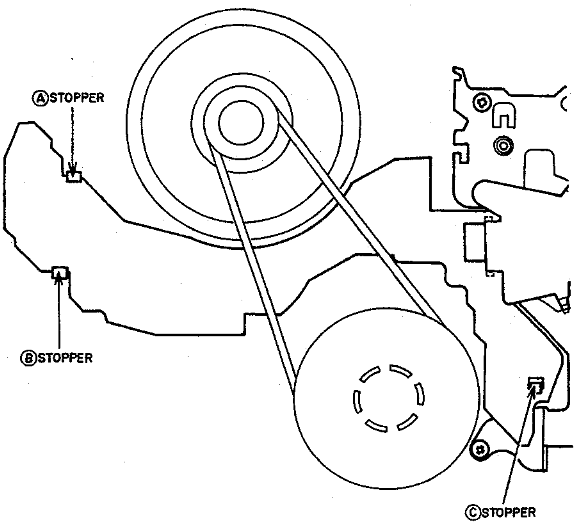


Fig. 3-6

3-3. REMOVAL OF THE LOADING DRIVE BLK

Set the loading mechanism to the "unloaded" position as well as 3-2 (REMOVAL OF THE SENSOR PC BOARD). However, this time, to avoid damaging the tape and mechanical parts, refer to 3-2, ∗ 2) only.

1) Remove the MODE SELECT SWITCH (refer to 3-2-1 Removal of the MODE SELECT SWITCH).
2) Unhook the five wires from each tab. Two wires from the SENSOR (S), two wires from the LOADING MOTOR and one wire from the REC SAFETY SWITCH.
3) Remove the Ⓐ, Ⓑ, Ⓒ and Ⓓ screws, then remove the LOADING DRIVE BLK as shown in Fig. 3-7.

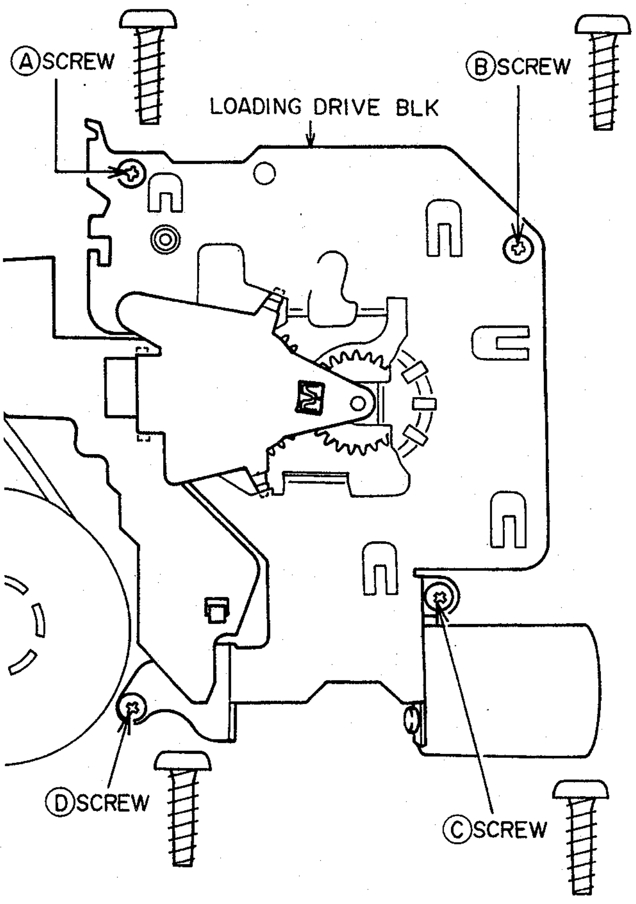

ⒶSCREW
ⒷSCREW
LOADING DRIVE BLK
ⒹSCREW
ⒸSCREW

Fig. 3-7

3-4. REASSEMBLY OF THE LOADING MECHANISM BLK

3-4-1. Position of the TOGGLE GEARs (T) and (S)

1) Set the TOGGLE GEARs (T) and (S) to the unloaded position with your fingers. Align the Ⓐ mark on TOGGLE GEAR (S) with the Ⓐ hole of TOGGLE GEAR (T) as shown in Fig. 3-8.

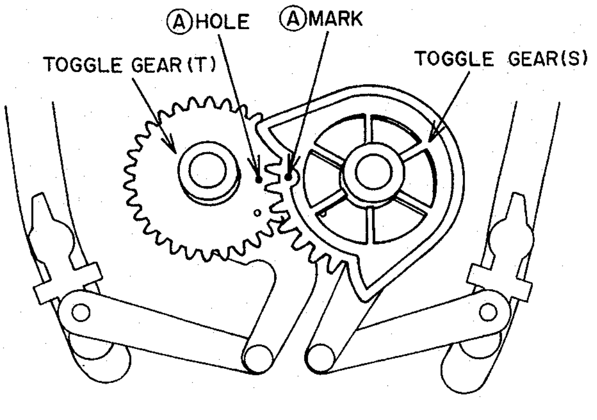

ⒶHOLE
ⒶMARK
TOGGLE GEAR(T)
TOGGLE GEAR(S)

Fig. 3-8

3-4-2. Installation of the CAM SLIDER GEAR & FRONT LOADING GEAR

1) Attach the WORM WHEEL GEAR as shown in Fig. 3-9.

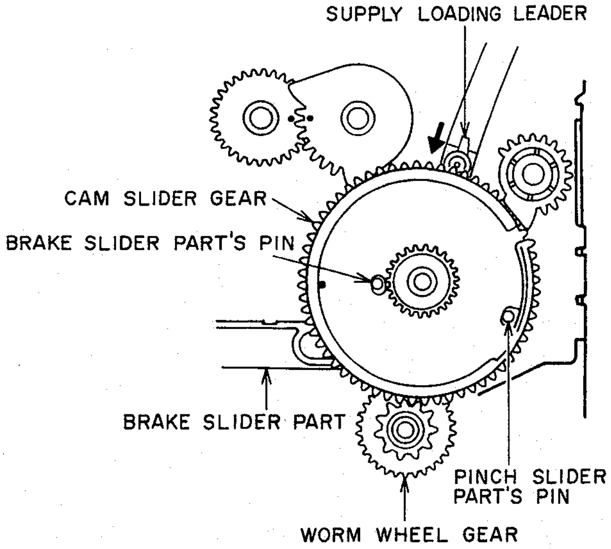

SUPPLY LOADING LEADER
CAM SLIDER GEAR
BRAKE SLIDER PART'S PIN
BRAKE SLIDER PART
PINCH SLIDER PART'S PIN
WORM WHEEL GEAR

Fig. 3-9

2) Set the CAM SLIDER GEAR and adjust the position of the BRAKE SLIDER PART and PINCH SLIDER PART so that both pins appear through the holes on the CAM SLIDER GEAR as shown in Fig. 3-9. When inserting the CAM SLIDER GEAR onto its shaft, press the SUPPLY LOADING LEADER slightly in the direction of the arrow to make installation easy.

3) Attach the FRONT LOADING GEAR as shown in Fig. 3-10 and align the Ⓑ mark on the FRONT LOADING GEAR with the Ⓑ hole of the FRONT LOADING SLIDER as shown in Fig. 3-11.

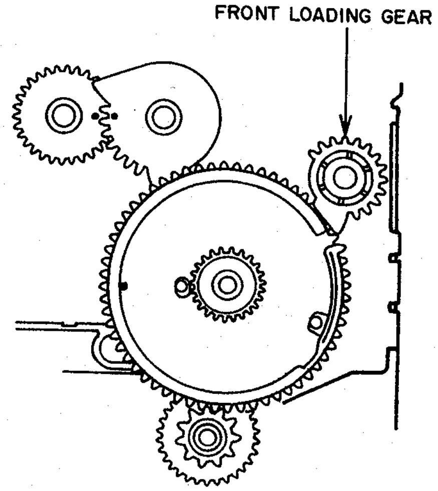

FRONT LOADING GEAR

Fig. 3-10

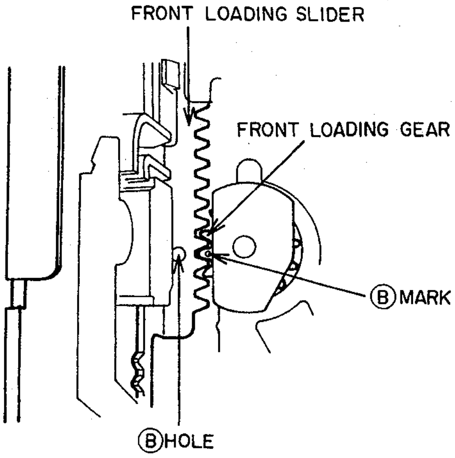

FRONT LOADING SLIDER
FRONT LOADING GEAR
ⒷMARK
ⒷHOLE

Fig. 3-11

3-4-3. Confirmation of the position of the EJECT GEAR

1) Confirm that the EJECT GEAR is in the correct position as shown in Fig. 3-12.

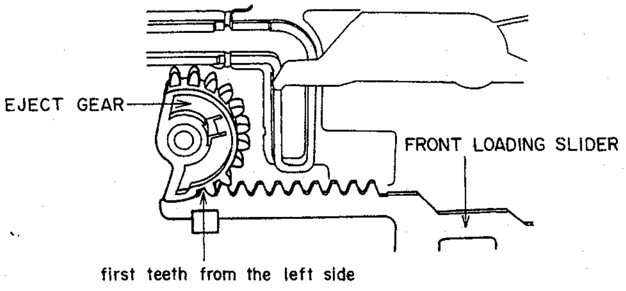

EJECT GEAR
FRONT LOADING SLIDER
first teeth from the left side

Fig. 3-12

2) Install the LOADING DRIVE BLK as shown in Fig.3-13.

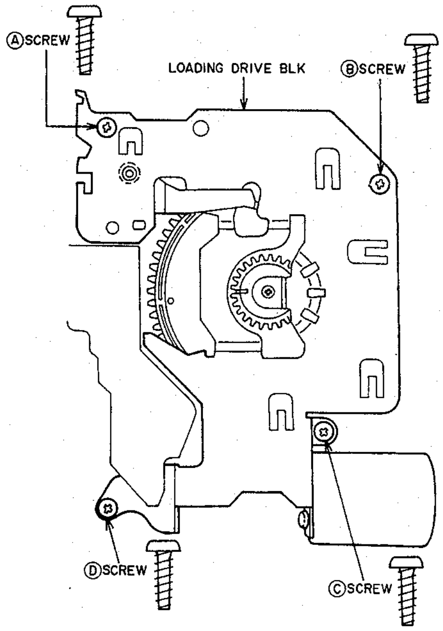

ⒶSCREW
LOADING DRIVE BLK
ⒷSCREW
ⒹSCREW
ⒸSCREW

Fig. 3-13

3-4-4. Installation of the MODE SELECT SWITCH

1) Set the MODE SELECT SWITCH's gear, so that the Ⓒ mark is in the center of the Ⓒ hole as shown in Fig. 3-14.

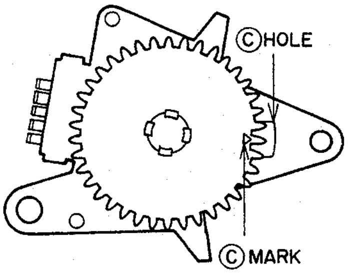


Fig. 3-14

2) Attach the MODE SELECT SWITCH to the LOADING DRIVE BLK and align the hollow of the gear's tooth (reverse side of the Ⓒ mark) with the Ⓒ groove of the CAM SLIDER GEAR as shown in Fig. 3-15.

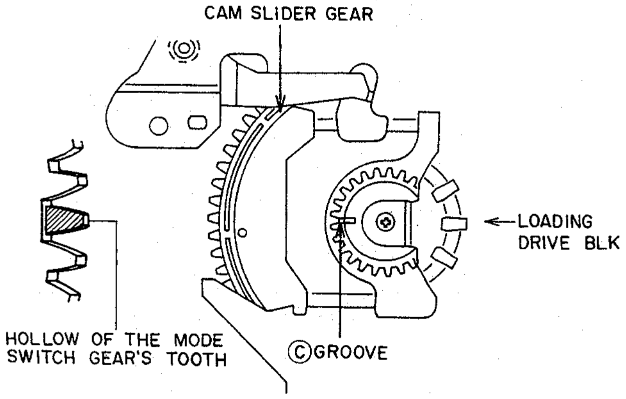

CAM SLIDER GEAR
LOADING DRIVE BLK
HOLLOW OF THE MODE SWITCH GEAR'S TOOTH
ⒸGROOVE

Fig. 3-15

3-4-5. Installation of the LOADING ARM BLK

1) While covering SENSOR (S) with your fingers, connect the AC power plug to the AC socket and then press the "EJECT" button on the OPERATION PCB. The FRONT LOADING SLIDER will reach the "EJECT" position. Then disconnect the AC power plug from the AC socket before you release your fingers from SENSOR (S).
2) Install the LOADING ARM BLK in the reverse order of 3-1-2 (Removal of the LOADING ARM BLK). Position the EJECT GEAR and the JOINT GEAR as shown in Fig. 3-16.

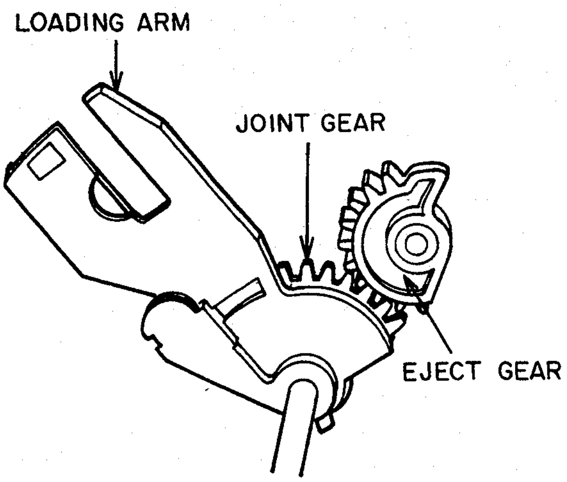


Fig. 3-16

3-4-6. Installation of the CASSETTE LOAD BLK, FRONT GUIDE and UPPER PLATE

1) Attach the CASSETTE LOAD BLK, FRONT GUIDE and UPPER PLATE in the reverse order of 3-1-1 (Removal of the CASSETTE LOAD BLK).
2) Insert a video cassette tape and confirm that the loading mechanism operates properly.

3-5. REPLACEMENT OF THE PINCH ROLLER PART

1) Remove the Ⓐ screw, then remove the PINCH ROLLER part, as shown in fig. 3-17
2) Set the pinch roller so that white plastic spacer side faces chassis when replacing. Then tighten the Ⓐ screw.

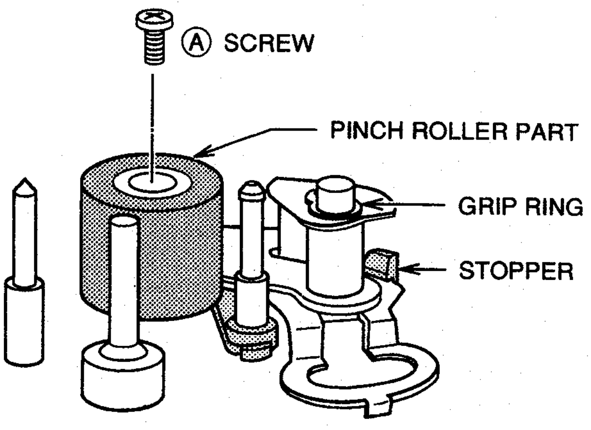


Fig. 3-17

3-6. REPLACEMENT OF THE IDLER PART AND REVIEW BRAKE PART

1) Remove the CASSETTE LOAD BLOCK & LOADING ARM BLK. (refer to 3-1, REMOVAL OF THE EJECTOR BLOCK).
2) Release the stopper of IDLER PART as shown in Fig. 3-18, then remove it.

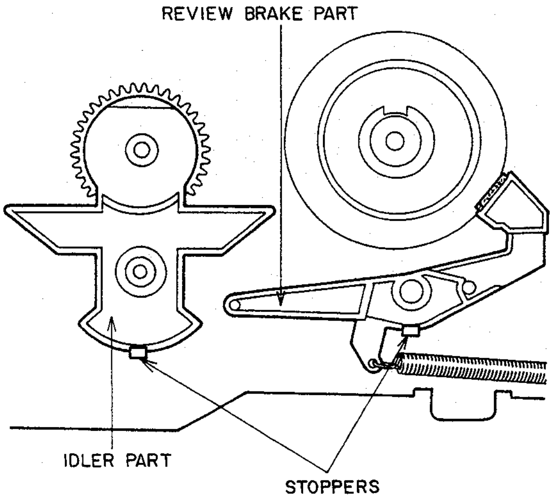


Fig. 3-18

3) Take off the review brake part spring, then release the stopper of the REVIEW BRAKE PART and remove it.
4) Reassemble the parts in the reverse order of steps 1) to 3).

3-7. REPLACEMENT OF THE UPPER DRUM

3-7-1. Removal of the UPPER DRUM

1) Remove one of the PRE AMP retaining screw and remove the EARTH BRUSH.
2) Unsolder the twelve relay leads and remove the two upper drum fixing screws as shown in Fig. 3-19.
3) Gently lift and remove the UPPER DRUM.

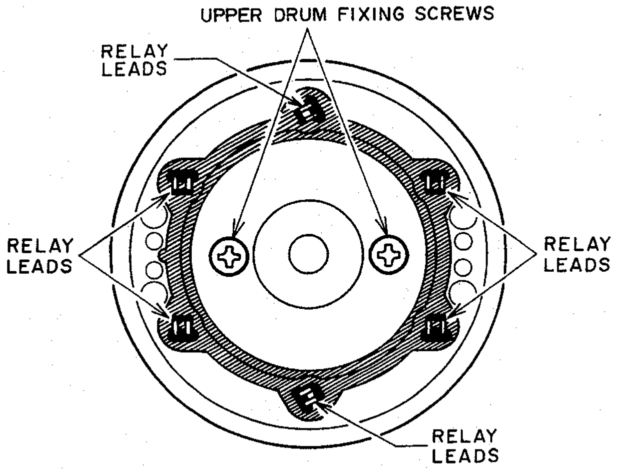

UPPER DRUM FIXING SCREWS
RELAY LEADS
RELAY LEADS
RELAY LEADS
RELAY LEADS

Fig. 3-19

3-7-2. Installation of the UPPER DRUM

1) Attach the UPPER DRUM to the LOWER DRUM ROTOR, so that the upper drum convex Ⓐ and lower drum rotor's white mark Ⓑ line up, as shown in Fig. 3-20.

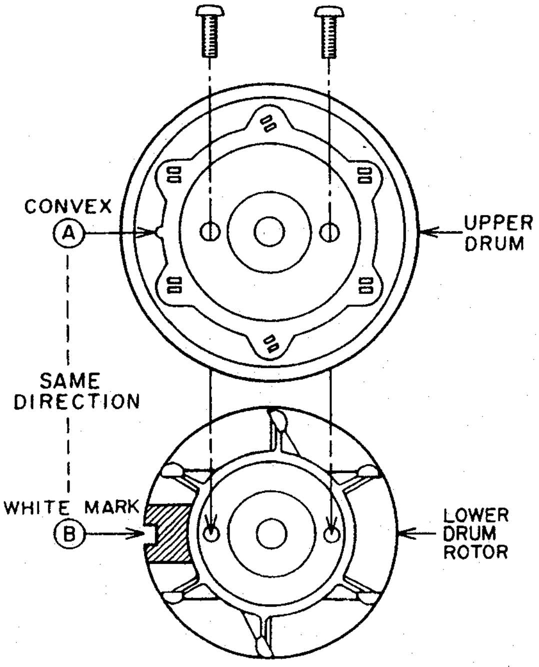

CONVEX
Ⓐ
UPPER DRUM
SAME DIRECTION
WHITE MARK
Ⓑ
LOWER DRUM ROTOR

Fig. 3-20

NOTE: Because height precision is required for proper performance, and because head tips are fragile, the following points should be noted when replacing the UPPER DRUM BLOCK.

(a) Do not loosen the set screw on the collar preload.
(b) Before fixing, use alcohol to clean both surfaces where the upper drum and the rotary transformer meet.
(c) If the UPPER DRUM can not be inserted on to the shaft easily during installation, clean the hole in the UPPER DRUM with alcohol and put a little oil on the shaft.
(d) Make sure that the upper drum fixing screw holes, on the rotary transformer part, and the upper drum fixing screw penetration holes match exactly before inserting the fixing screws.
(e) Tighten the two upper drum fixing screws alternately and gradually.

3-7-3. After replacement

After replacement, the following adjustments are necessary for the proper performance.

1) Control head Phase adjustment (IV. MECHANICAL ADJUSTMENT 4-3-3.)
2) PB switching point confirmation. (INFORMATION section on page 6)
3) Video head REC current adjustment. (V. ELECTRICAL ADJUSTMENT Step 7)
4) ENV. DET (I-HQ) adjustment. (INFORMATION section on page 5)

3-8. DRUM MOTOR PC BOARD REPLACEMENT

1) Remove the two Ⓐ screws on the ROTARY PLATE and then remove it.
   Then disconnect the connector on the DRUM MOTOR PCB as shown.

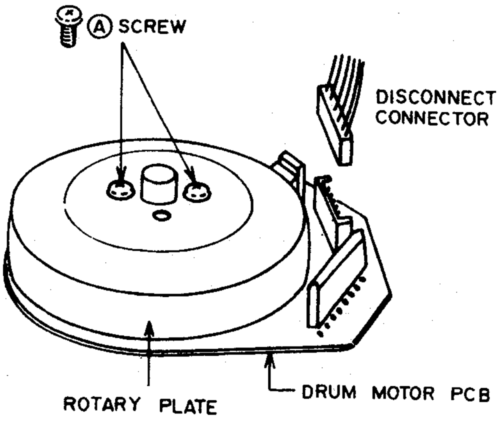

Ⓐ SCREW
DISCONNECT CONNECTOR
ROTARY PLATE
DRUM MOTOR PCB

Fig. 3-21

2) Remove the three Ⓑ screws which retain the DRUM MOTOR PCB and replace it.

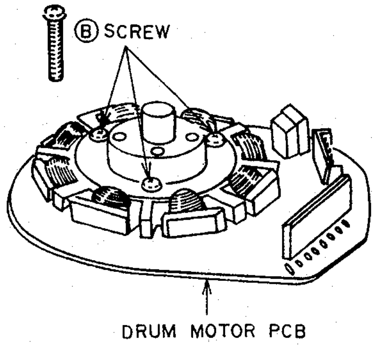


Fig. 3-22

3) Attach the ROTARY PLATE to the collar preload so that the rotary plate Ⓒ hole and collar preload Ⓓ hole line up

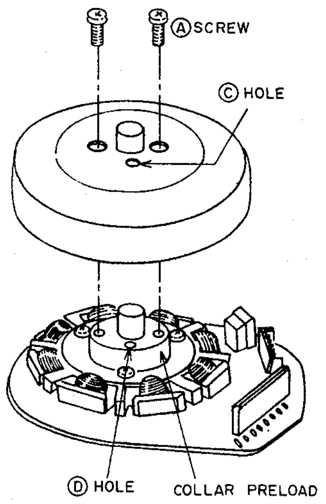


Fig. 3-23

4) After replacement, PB switching point confirmation (INFORMATION section on page 6) is necessary for the proper performance.

3-9. REMOVAL OF THE PRE AMP PCB

1) Remove the Ⓐ screw and remove the EARTH BRUSH as shown in Fig. 3-24.

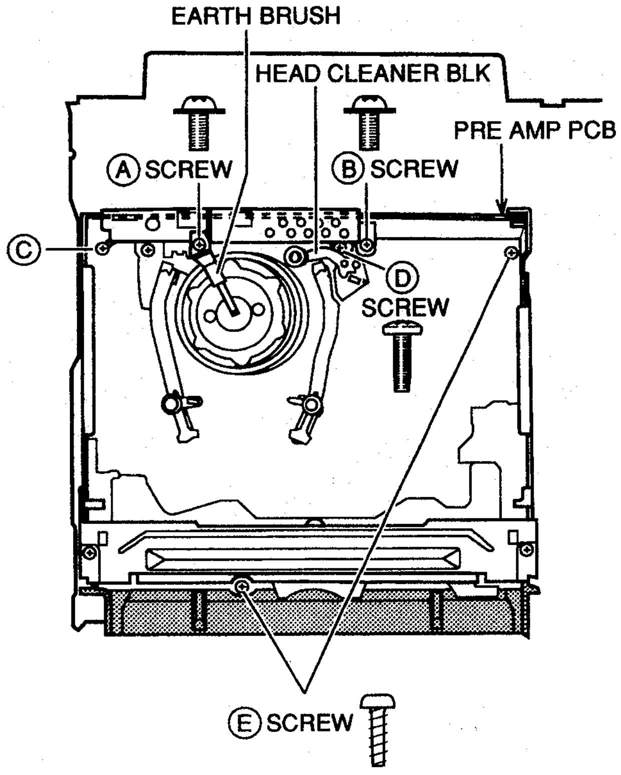


Fig. 3-24

2) Disconnect the connector on the FULL TRACK ERASE HEAD.
3) Remove the Ⓑ and Ⓒ screws and then pull up the PRE AMP PCB carafully.
4) Reassemble in the reverse order for installation. When positioning the PRE AMP PCB, carefully align the P11 connector on the PRE AMP PCB to the VIDEO HEAD's FPC cable not to damage the FPC cable.

3-10. REPLACEMENT OF THE HEAD CLEANER BLOCK

1) Remove the PRE AMP PCB (refer to step 3-9).
2) Remove the Ⓓ screw on the HEAD CLEANER BLOCK.
3) Reassemble in the reverse order for installation.

3-11. REMOVAL OF THE MECHANISM BLOCK (MECHA. FRAME)

1) Remove the PRE AMP PCB (refer to step 3-9).
2) Disconnect the connectors P616, P617, P618, P619 on the SERVO/SYSCON PCB and P1 on the A/C HEAD PCB.
3) Remove the two Ⓔ screws from the MECHA. FRAME as shown in Fig. 3-24.
4) Hold the rear side of the MECHA. FRAME then remove it by pulling it up backwards.
5) Reassemble in the reverse order for installation.

IV. MECHANICAL ADJUSTMENT

4-1. BACK TENSION ADJUSTMENT

1) Prepare a video cassette tape which you no longer needed. Remove both tape reels and the tape protection cover from the cassette tape. Then cover the video cassette's left and right side detection holes with black adhesive tape.
2) Play back the tapeless cassette which you prepared.
3) Confirm the distance between Ⓐ groove on the TENSION ARM and the Ⓐ mark on the MECHA. CHASSIS so that the distance should be within the value shown in Fig. 4-1
4) If the result is not satisfactory, eject the tape and adjust the TENSION ADJUST repeatedly until the result is satisfactory.

4-2. TAPE TRANSPORT ADJUSTMENTS

NOTE: The following adjustments are required only when an irregularity is found, since these adjustment are precisely set at the factory.

4-2-1. Tape curl adjustment at the TAKE-UP TAPE GUIDE

1) Play back a recorded tape which is no longer needed.
2) Turn the Ⓐ screw on the A/C HEAD BLK, until the edge of the tape barely touches the lower part of the TAKE UP TAPE GUIDE, without any curl or wrinkle.
3) Once the Ⓐ screw is adjusted, A/C HEAD height and azimuth adjustment is required. (Refer to 4-3. A/C HEAD POSITION ADJUSTMENT.)

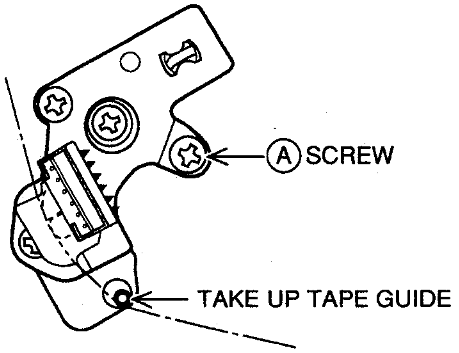
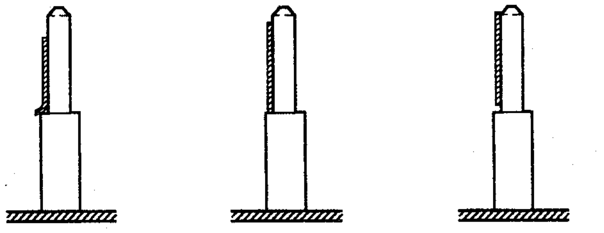


Fig. 4-2

(TAKE-UP TAPE GUIDE)



(a) INCORRECT (b) CORRECT (c) INCORRECT

Fig. 4-3

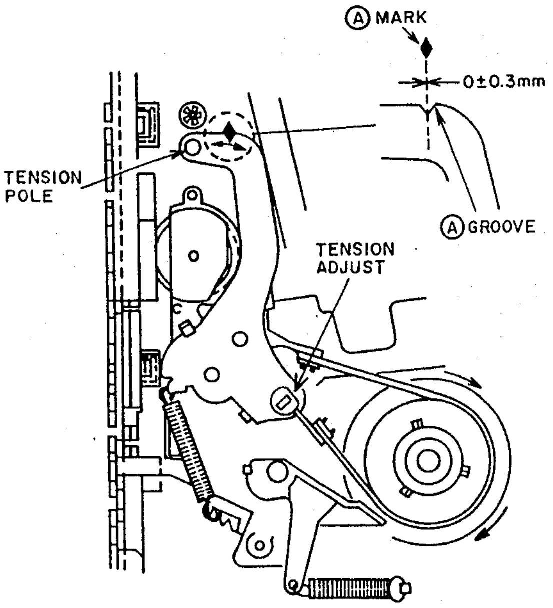
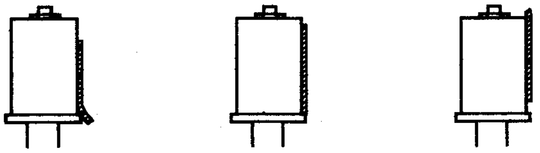


Fig. 4-1

4-2-2. Tape curl adjustment at the SUPPLY TAPE GUIDE

Confirm that the lower edge of the tape barely touches the lower part of the SUPPLY TAPE GUIDE without any curl or wrinkle as shown in Fig. 4-4a. If the result is not satisfactory, bend the neck part of the TENSION ARM in the A or B direction slightly until the result is satisfactory. (Do not hold by the TENSION POLE as this may loosen it.)



INCORRECT Ⓐ CORRECT INCORRECT Ⓑ

Fig. 4-4a

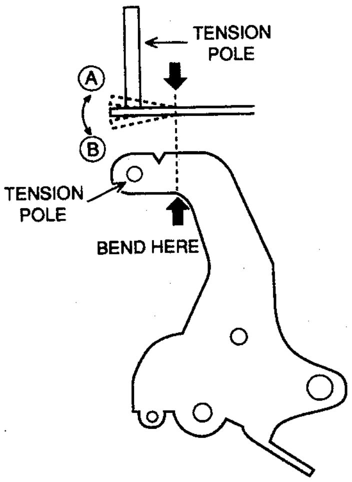


Fig. 4-4b

4-2-3. REVIEW ARM height adjustment

1) Play back the beginning part of an E-240 tape and set the unit to the REVIEW mode by pressing the REW button. (Remove the tape protection cover to make the adjustment easier.)

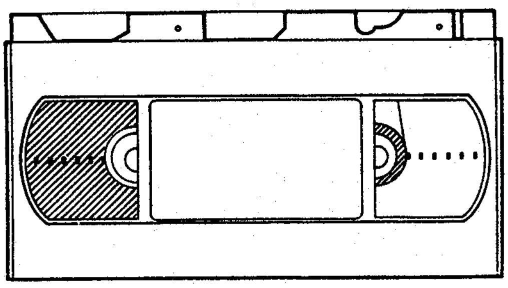


Fig. 4-5

2) Turn the REVIEW ARM height Ⓐ nut so that the edge of the tape barely touches the lower part of the TAKE-UP TAPE GUIDE, without any curl or wrinkle between the TAKE-UP TAPE GUIDE and the CAPSTAN SHAFT as shown in Fig. 4-6 to Fig. 4-8.

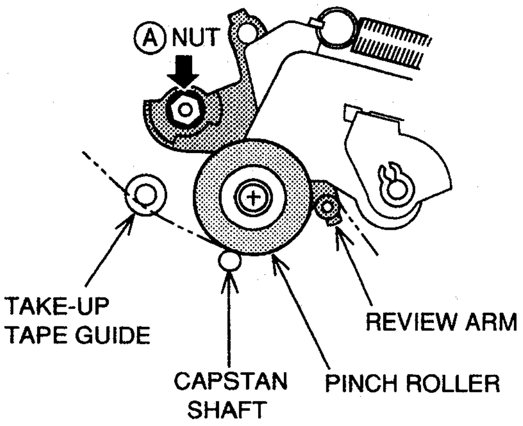
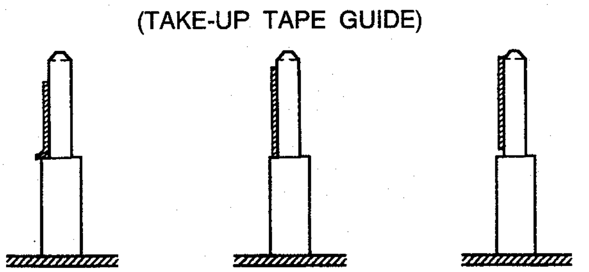
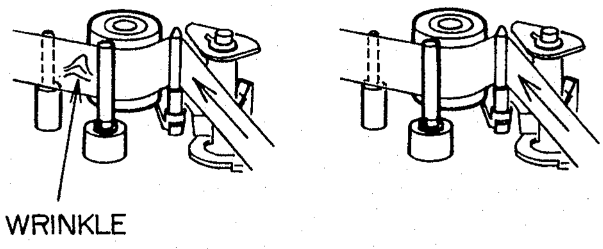


Fig. 4-6



(a) INCORRECT (b) CORRECT (c) INCORRECT

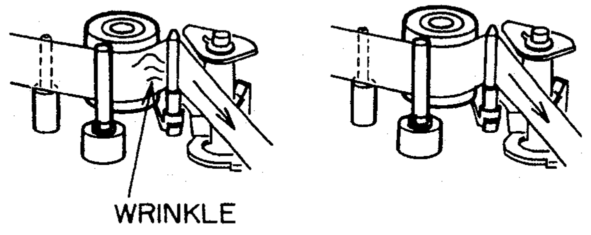
Fig. 4-7



INCORRECT CORRECT

Fig. 4-8

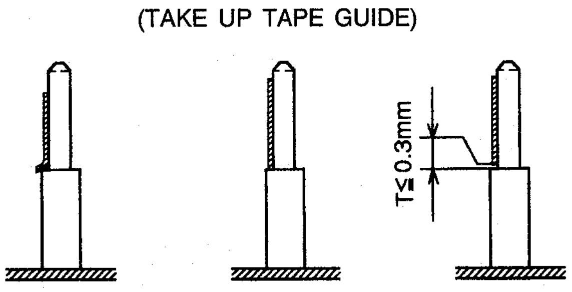
3) Play back the beginning part of an E-240 tape and this time set the unit to the CUE mode by pressing the F. FWD button.
4) Confirm there is no curl or wrinkle near the REVIEW ARM's guide.
If curl or wrinkle of the tape occurs, slightly turn the Ⓐ nut (shown in Fig. 4-6) until it disappears.



INCORRECT CORRECT

Fig. 4-9

5) Set the unit to the REVIEW mode again. Then confirm that there is no curl or wrinkle near the TAKE-UP TAPE GUIDE. (A small gap may appear after this adjustment, but this is allowable.)



(a) INCORRECT (b) CORRECT (c) CORRECT

Fig. 4-10

NOTE:
1. If the results are not satisfactory, repeat steps 2) to 5).
2. Always play an undamaged tape to obtain satisfactory adjustment.
3. Because an E-240 tape can be damaged easily, due of its thinness, a pre-adjustment with an E-180 tape is recommended.

4-2-4. LOADING LEADER height adjustments

1) Slightly loosen the set screw at the lower part of the LOADING LEADERs (L), (R) so that the LOADING LEADER can be adjusted with reasonable tightness. (Refer to Fig. 4-11.)

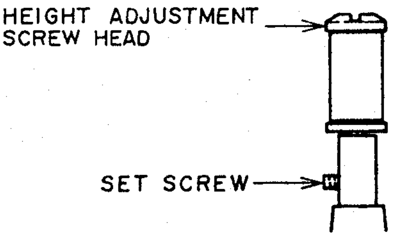


Fig. 4-11

2) Play back reference tape TF-530RFS (AT-751775).
3) Connect an oscilloscope's CH-1 to TP2 (PB ENV) on the PRE AMP PCB and CH-2 to TP1 (V-SWP) for triggering.
4) Turn the LOADING LEADER heads with a flat head (━) screwdriver to obtain a flat RF envelope as the ideal envelope, as shown in Fig. 4-12.
5) After adjustment is completed, tighten the loading leader set screws.

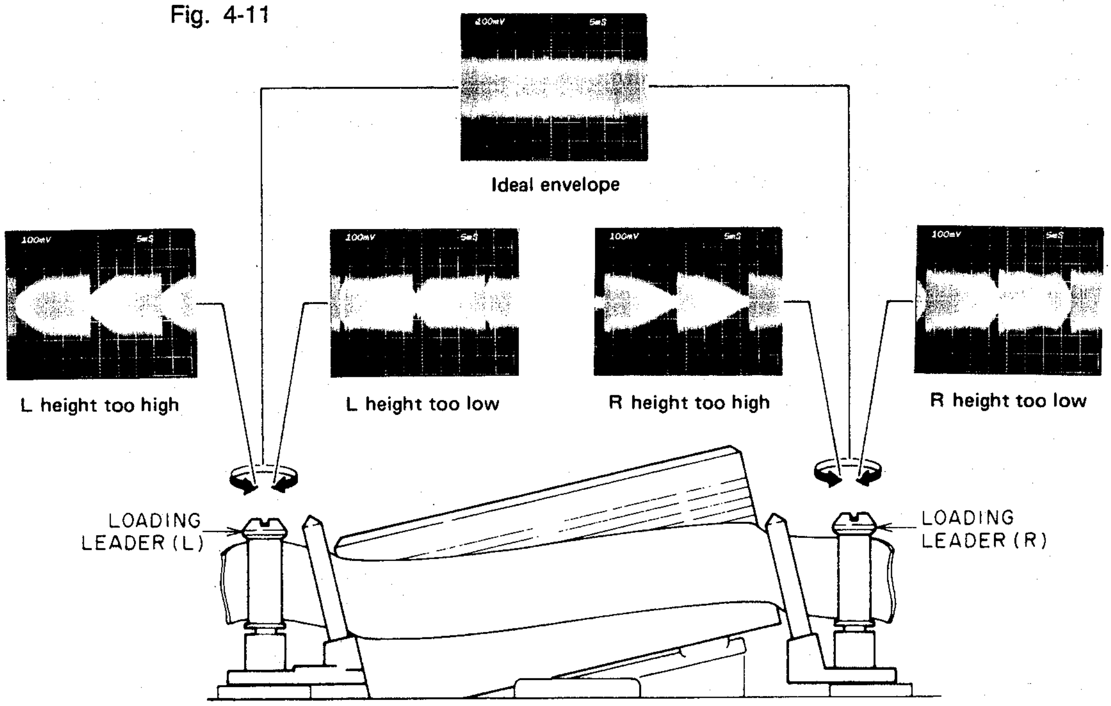


Fig. 4-12

4-3. A/C HEAD POSITION ADJUSTMENT

4-3-1. Azimuth adjustment

1) Connect an AC voltmeter or an oscilloscope to the AUDIO OUT terminal on the rear panel.
2) Play back the reference tape TF-530RFS (AT-751775).
3) Press the "AUDIO MONITOR" button on the remote control unit and choose the "LINEAR AUDIO" playback
4) Adjust the Ⓑ screw to obtain the maximum audio output.

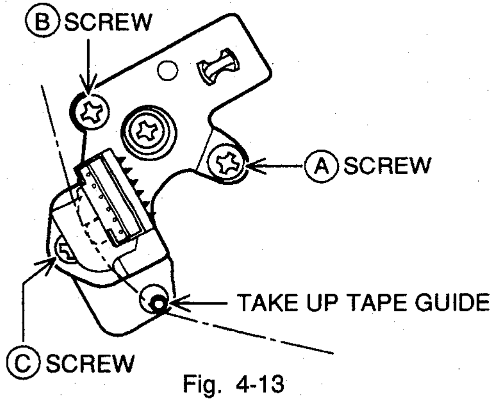
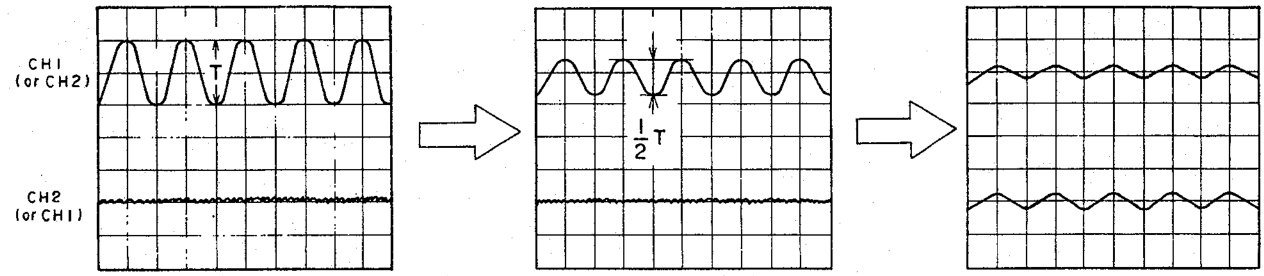


Fig. 4-13

4-3-2. Height adjustment

1) Play back test tape TF-526HH (AT-751788).
2) Connect an oscilloscope's CH-1 to the AUDIO OUT terminal on the rear panel and CH-2 to TP601 (CTL OUT) on the SERVO/SYSCON PCB.
3) Turn the Ⓒ screw to obtain 1/2 of the output level of either CH-1 or CH-2, whichever has an output signal as shown in Fig. 4-14.
   Then set both of the oscilloscope's channels to 100 mV/div and finely adjust the Ⓒ screw until both signals of CH-1 and CH-2 are nearly the same level.
4) Slightly turn the Ⓐ screw until the tape edge barely touches the lower part of the TAKE-UP TAPE GUIDE without any curl or wrinkle as shown in Fig. 4-3.
5) Adjust the head azimuth again. (Turning the Ⓒ screw, or Ⓐ screw, will cause head azimuth mis-alignment. Refer to 4-3-1. Azimuth adjustment.)
6) Confirm that both signals of CH-1 and CH-2 are nearly the same level (confirm that neither of the CH-1 or CH-2 output levels exceed 100 mVp-p). If the result is not satisfactory, repeat steps 3) to 5).



(a) CH1 = T

(b) CH1 = $\frac{1}{2}$T

(c) CH1 = CH2

Fig. 4-14

4-3-3. Phase adjustment

1) Connect an oscilloscope's CH-1 to the TP2 (PB ENV) on the PRE AMP PCB and CH-2 to TP1 (V-SWP) for triggering.
2) Play back reference tape TF-530RFS (AT-751775).
3) Press the "<" or ">" cursor button on the remote control until the "X" mark can be seen in the center position of the tracking range on the TV screen as shown in Fig. 4-15.

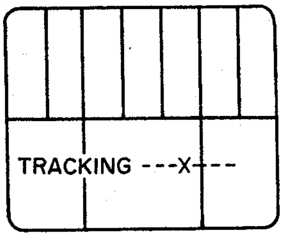


Fig.4-15

4) Loosen the Ⓓ screw slightly so that the A/C HEAD BASE can be moved with reasonable tightness.

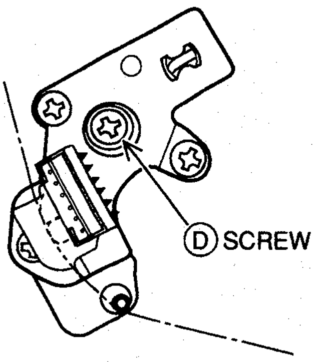


Fig.4-16

5) Insert a philips type screwdriver into the Ⓐ hole through the A/C HEAD BASE as shown in Fig. 4-17.

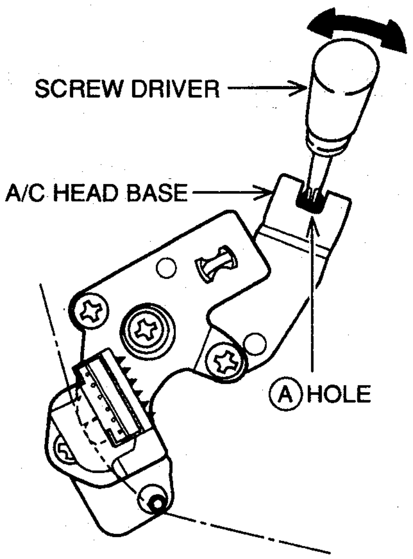


Fig. 4-17

6) Move the A/C HEAD BASE by moving a screwdriver in the direction of the arrow as shown in Fig. 4-17 to obtain the maximum RF output, then tighten the Ⓓ screw.
7) Eject the tape and then re-insert it and play it back again. Confirm that the RF output is maximum after the auto tracking control has been activiated. Next, press the "<" or ">" cursor button on the remote control unit alternately and confirm that the RF output is maximum at the tracking center position. If the result is not satisfactory, repeat the adjustment, step 2) to 6). (This adjustment is very important as this affects to the interchangeability of the recorded tapes.)

V. ELECTRICAL ADJUSTMENT

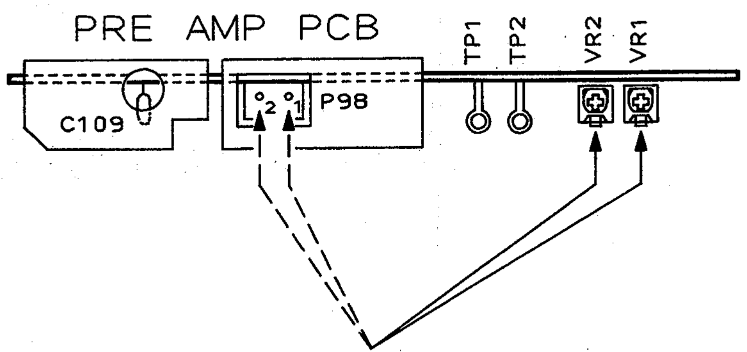
5-1. VIDEO CIRCUIT ADJUSTMENT

Precautionary items prior to adjustments
1. The color bar generator output should be 1.0 Vp-p.
2. The video output terminal should be terminated with 75 ohms (connect dummy load or 75 ohms input TV).

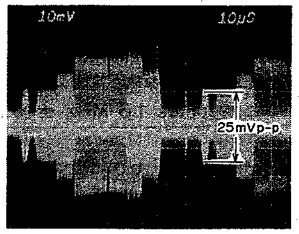
STEP | ADJUSTMENT ITEM
1. MODE and INPUT SIGNAL/TEST TAPE
2. TEST POINT and ADJ part
3. REMARKS (•) & RESULT (✻)

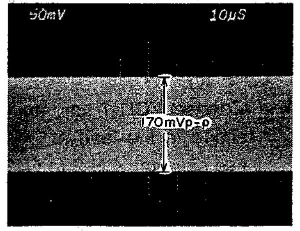
→ ADJ part

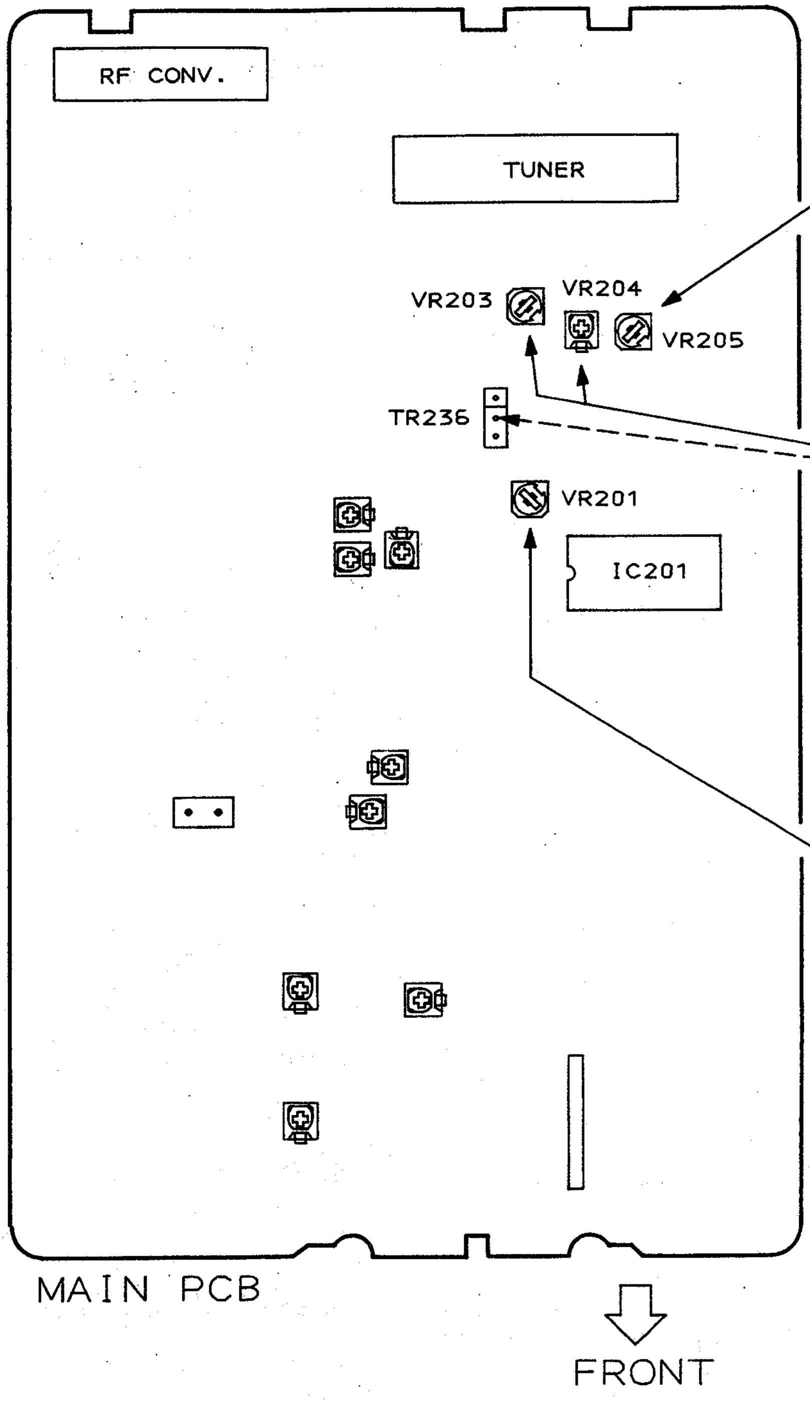
→ Test point



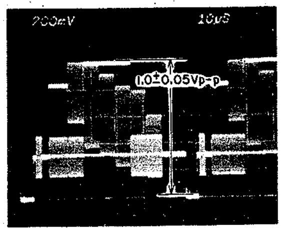
3 | VIDEO REC CURRENT
1. "REC" (LP mode), PAL color bar signal
2. P98 (TP REC. CURR) ① pin, ② pin & VR1(REC-CHROMA), VR2 (REC-Y)
3. • Connect the CH-1 hot side of an oscilloscope to P98 ② pin and ground side to ① pin. Connect CH-2 to VIDEO OUT for triggering.
   - • Connect the P98 ① pin to the PRE AMP shield case with a low resistance jumper wire.
   - • Turn the VR2 (REC-Y) fully counterclockwise.
   - ✻ Adjust the VR1 so that the chroma REC current becomes 25 mVp-p at the burst signal area. (Measure the center value of the noise part of the burst signal.)
   - ✻ Disconnect the input signal then adjust the VR2 so that the Y REC current becomes 170 mVp-p.



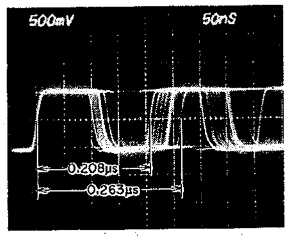




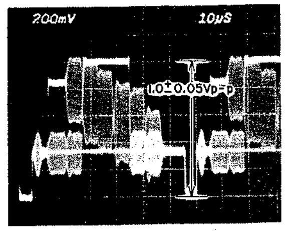
1 | VIDEO E-E LEVEL
1. "E-E" (stop mode), PAL color bar signal
2. VIDEO OUT & VR205 (E-E LEVEL)
3. • Connect an oscilloscope to the VIDEO OUT.
   ✻ Adjust the VR205 so that the output level is 1.0 Vp-p.



2 | FREQUENCY & DEVIATION
1. "REC", PAL color bar signal
2. TR236 collecter (REC Y) & VR204 (FREQ), VR203 (DEV)
3. • Connect an oscilloscope to the TR236 collecter on the MAIN PCB.
   ✻ Adjust the VR203 and VR204 alternately so that the waveform becomes as shown.
   Lower frequency: 0.263 µs (3.8MHz)
   Upper frequency: 0.208 µs (4.8MHz)



4 | VIDEO PB LEVEL
1. "REC" → "PB", PAL color bar signal
2. VIDEO OUT & VR201 (PB LEVEL)
3. • Connect an oscilloscope to the VIDEO OUT.
   - • Make a recording on a blank tape then play it back.
   - ✻ Adjust the VR201 so that the PB level becomes 1.0 Vp-p



5-2. AUDIO CIRCUIT ADJUSTMENT

Precautionary items prior to adjustments
Never adjust the D-MULTI (or D-NICAM) PCB because it is adjusted precisely at the factory and adjustment of the D-MULTI section is required special testing equipments.

Required following test tape.

Test tape	Parts No.
TF-532CBS	AT-751360

STEP	ADJUSTMENT ITEM
	1. MODE and INPUT SIGNAL/TEST TAPE
	2. TEST POINT and ADJ part
	3. REMARKS (•) & RESULT (✻)

ADJ. part

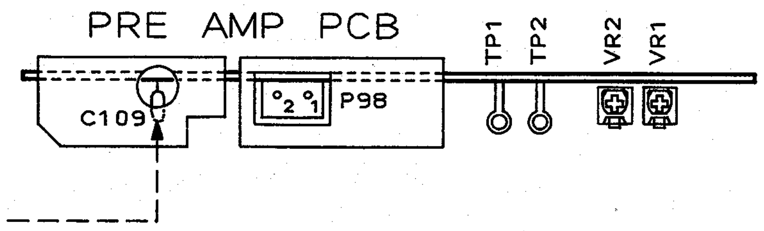
Test point

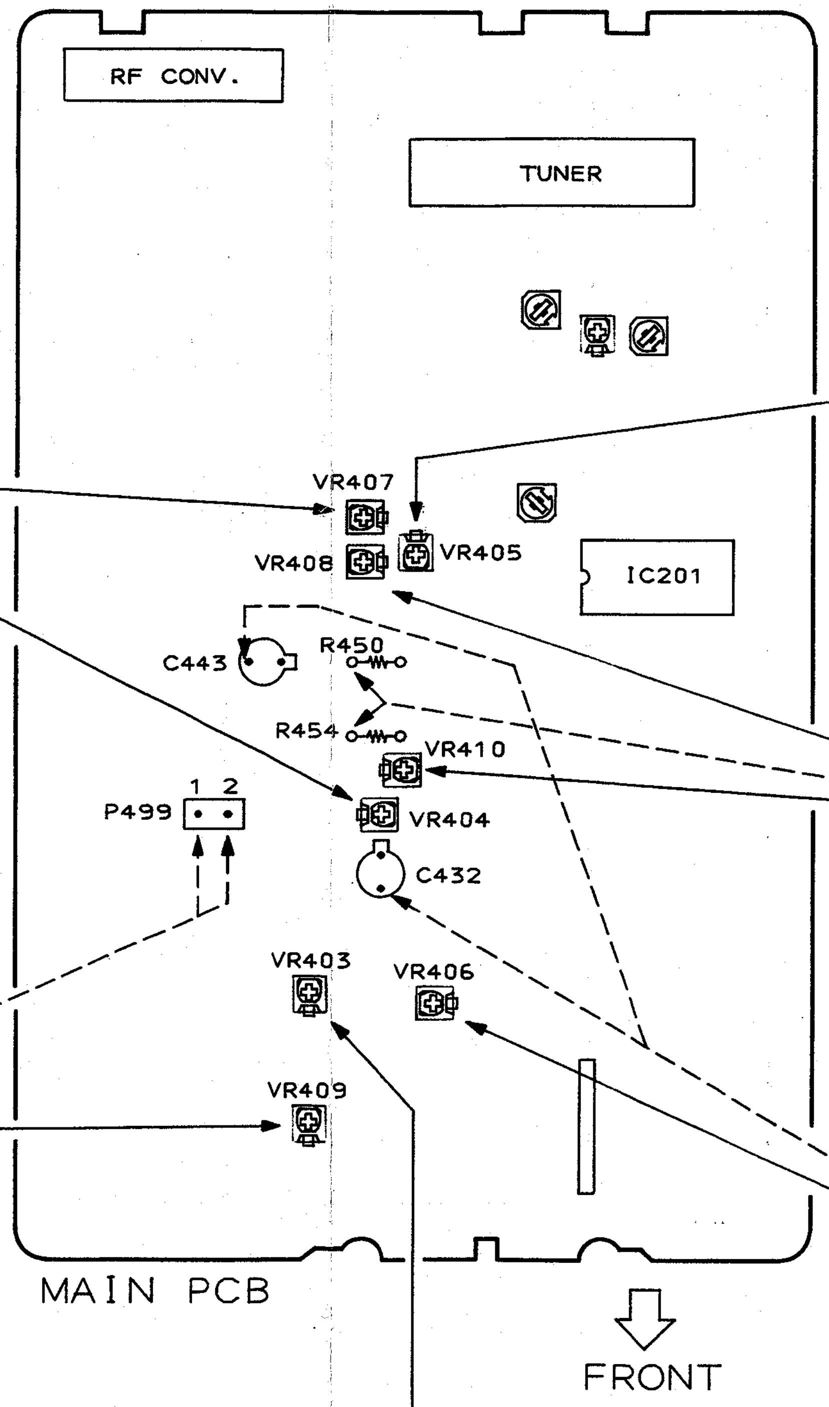
2	Hi-Fi DEVIATION

1. "PB", test tape TF-532CBS
2. AUDIO OUT (L), (R) & VR407 (L-DEV), VR404 (R-DEV)
3. • Connect an AC milli-voltmeter to the L-CH and R-CH AUDIO OUT.
   ✻ Adjust the VR407 and VR404 so that the output level of both L and R channel becomes −5.5 dBs.
   ✻ Input 1kHz, −6.0 dBs signal to the AUDIO IN terminal and adjust the REC LEVEL volume on the FRONT PANEL so that both L-CH and R-CH output levels are −6.0 dBs during stop mode.
   Set a blank tape to the VCR. Make a recording on the tape then play it back and confirm that the playback level is −6.0 ±1.0 dBs

4	REC BIAS

1. "REC", (no signal input)
2. P499 ①, ② pin & VR409 (REC BIAS)
3. • Connect an AC milli-voltmeter to the P499 ② pin (hot side) and ① pin (ground side).
   (Never connect the AC milli-voltmeter's ground to the VCR's ground)
   ✻ Adjust the VR409 so that the reading on the AC milli-voltmeter becomes 2.3 mV



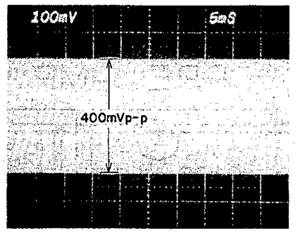


5	LINEAR PB LEVEL

1. "PB", test tape TF-532CBS
2. AUDIO OUT & VR403 (LINEAR PB LEVEL)
3. • Connect an AC voltmeter to the AUDIO OUT (L-CH or R-CH).
   • Press the "AUDIO MONITOR" button on the remote control unit and choose the "LINEAR AUDIO" playback.
   ✻ Adjust the VR403 so that the output level becomes −11.0 dBs.

3	Hi-Fi REC CURRENT

1. "REC" (LP mode), no signal input
2. C109 (A REC CURR) & VR405 (REC CURRENT)
3. • Connect an oscilloscope to the lead of the C109.
   • Set the tape speed to the "LP" mode and start recording on a blank tape.
   ✻ Adjust the VR405 so that the waveform level on the oscilloscope becomes 400 mVp-p.

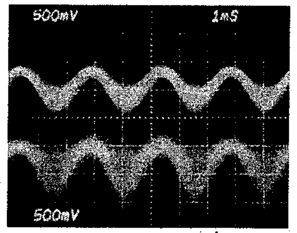


1	Hi-Fi CARRIER FREQUENCY

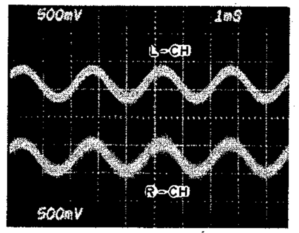
1. "E-E" (stop mode), no signal input
2. R450 (L), R454 (R) & VR408 (L-fo), VR410 (R-fo)
3. • Connect a frequency counter to the lead of the R450 .
   ✻ Adjust the VR408 so that the reading on the frequency counter becomes 1.4 MHz ±10 kHz.
   • Connect the frequency counter to the lead of the R454 (reverse side of the MAIN PCB) and ground.
   ✻ Adjust the VR410 so that the reading on the frequency counter becomes 1.8 MHz ±10 kHz.

6	BPF fc

1. "PB", test tape TF-532CBS
2. C443 (L-CH DEMOD out), C432 (R-CH DEMOD out) & VR406 (BPF fc)
3. • Connect CH-1 of an oscilloscope to the lead of C443 positive side and CH-2 to C432 positive side.
   ✻ Adjust the VR406 so that both the upper and lower edge of the sine-waveform is not distorted on both L-CH and R-CH



INCORRECT



CORRECT

VI. PARTS LIST

ATTENTION

1. **When placing an order for parts, be sure to list the Part No., Model No. and the description of each part. Otherwise, the non-delivery of the part or the delivery of a wrong part may result.**
2. **Please make sure that Part No. is correct when ordering. If not, a part different from the one you ordered may be delivered.**
3. **Since the parts shown in Parts List of Preliminary Service Manual may have been the subject of changes, please use this Parts List for all future reference.**

HOW TO USE THIS PARTS LIST

1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
4. How to read the Parts List.

a) Mechanism Block

2. HEAD BASE BLOCK

Ref. No.	Part No.	Description
1	BH-T2023A320A	HEAD BASE BLOCK
2	HP-H2206A010A	HEAD R/P PR4-8FU C
3	ZS-477876	PAN20×03STL CMT
4	ZS-536488	BID20×08STL CMT
5	ZG-402895	SP CS ANGLE ADJUST

SP (Service Parts) Classification

This number corresponds with the individual parts index number in that figure.

b) PC Board

6. MAIN PC BOARD

Ref. No.	Part No.	Description
IC1	EI-324536	IC HD14049BP
IC2	EI-336801	IC MB8841-564M
C1A	EC-338399	C MMY V 223M 250AC [U,E,B,S]
C1B	EC-350949	C MMY V 223M 250DC [J]
C1C	EC-338397	C MMY V 223M 125AC [C,A]
X1	EI-318384	OSC X'TAL NC-18C

Symbols for primary destination

[A] :AAL (U.S.A)
[S] :SAA (Australia)
[B] :BEAB (England)
[U] :U/T (Universal Area)
[C] :CSA (Canada)
[E] :CEE (Europe)
[V] :VDE (Germany)
[J] :JPN (Japan)
[Y] :Custom Version

SP (Service Parts) Classification

These reference symbols correspond with component symbols in the Schematic Diagrams.

The available PC Board Blocks are listed separately.

5. When Part No. is known, Parts Index at end of Parts List can be used to locate where that part is shown in Parts List by its Reference No. listed at right of Part No.

WARNING

⚠ (*) INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS.

AVERTISSEMENT

⚠ (*) IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉDE L'APPAREIL, NE REMPLACER QUE DES PIÉCES RECOMMANDEES PAR LÉ FABRICANT.

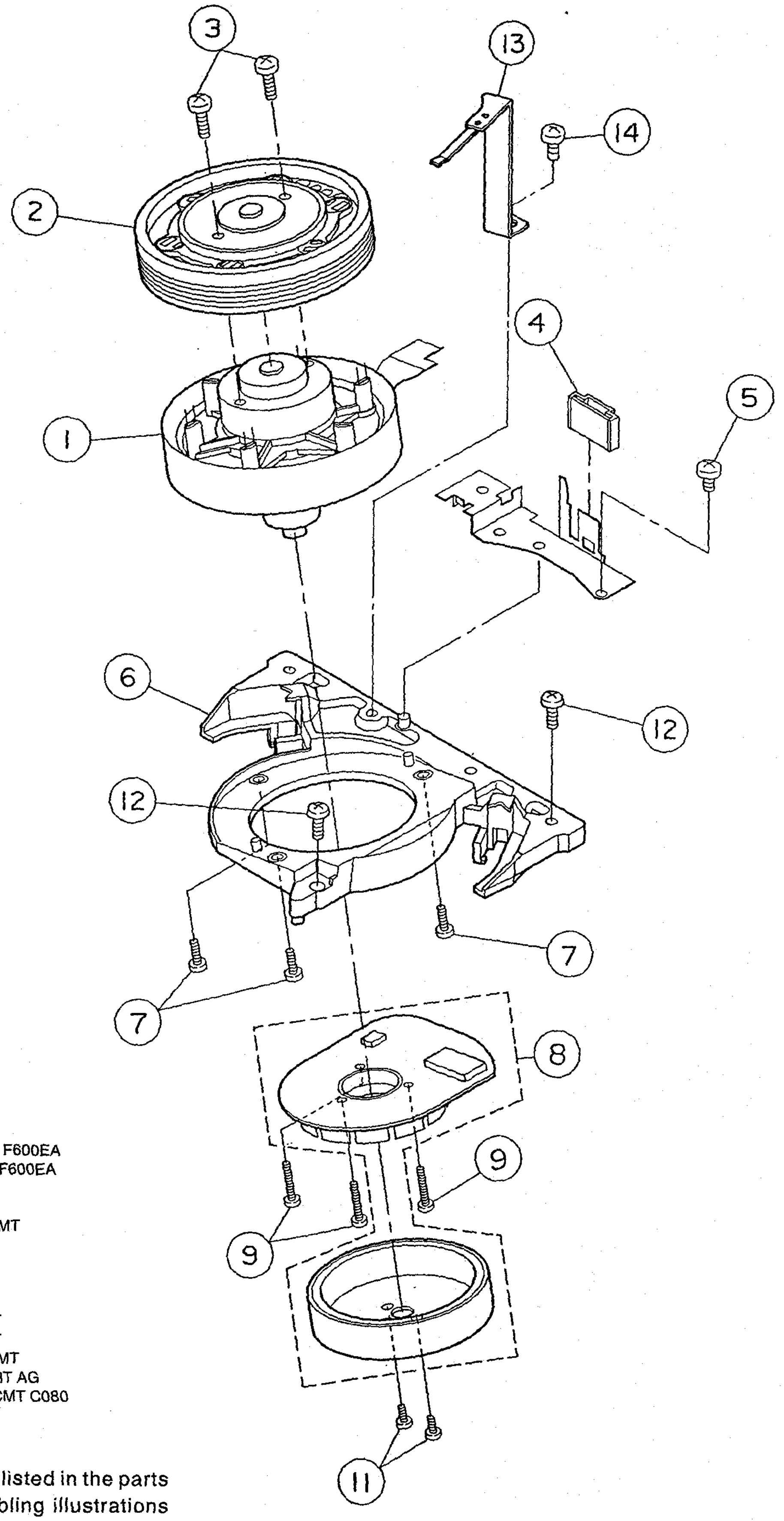
1. RECOMMENDED SPARE PARTS

We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service.

Ref. No.	Part No.	Description
1	AV-B1050A010E	REMOCON BLK RC-W602G [EOG]
2	AV-B1065A010C	REMOCON BLK RC-W612E [G64EK]
3	AV-B1071A010E	REMOCON BLK RC-W612G [P-EOG]
4	AV-B1071A010D	REMOCON BLK RC-W622E [EOH-DNV]
5	AV-416974M	REMOCON RC-W600E [EXCEPT EOG,G64EK,P-EOG,EOH-DNV]
6	BB-V1172A020A	MECHA DECK BLK G60EA-D
7	BL-V1102A140A	ARM LOADING BLK 425EA
8	BL-V1102A050B	TENSION ARM BLK G60EA-D
9	BM-415160J	MOTOR DFX-67D3VWA [CAPSTAN MOTOR]
10	BM-401296J1	MOTOR E20EL89 [DRUM MOTOR]
11	BM-387503J	MOTOR PART [LOADING MOTOR]
12	*BT-416603J	TRANS POW V1172 EK [EA,EK]
13	*BT-416602J	TRANS POW V1172 EO [EXCEPT EA,EK]
14	BV-V1102A150A	CASSETTE LOAD BLK 425EA
15	BV-V1102A070A	LEADER S BLK 425EA
16	BV-V1102A080A	LEADER T BLK 425EA
17	BV-V1123A410C	LOWER DRUM BLK F600EA
18	BV-403410J	RF CONVERTER MDLK6B733A EK [EK]
19	BV-403409J	RF CONVERTER MDLK6D755A EO [EXCEPT EA,EK]
20	BV-387610J1	RF CONVERTER YAA21-0809G EA [EA]
21	BV-V1123A420C	UPPER DRUM BLK F600EA
22	BV-416550J	VIF UNIT QHX EA [EA]
23	BV-416551J	VIF UNIT QHX EK [EK]
24	BV-416552J	VIF UNIT QHX EOG [EO,EOG,P-EOG]
25	BV-416554J	VIF UNIT QHX EOHD [EOH-D]
26	BV-416556J	VIF UNIT QHX EOHDN [EOH-DN/DNV]
27	BV-416555J	VIF UNIT QHX EOHN [EOH-N]
28	EA-387496J	PC (#) SENSOR
29	ED-390011J	D LED GL451 INFRARED [D1]
30	ED-390012J	D LED GL4800 INFRARED [D2]
31	ED-416503J	D LED SID1010CXM LF51 INFRARED
32	ED-401099J	D SCHOTTKY MA719 T26 40/0.5A [EOH-DN (Y2)]
33	ED-360318	D SILICON H MA700
34	ED-307572	D SILICON H 1SS131 [EO,EOG,P-EOG]
35	ED-624903	D SILICON H 1S2473
36	*ED-394708J	D SILICON RBA402 200/4.0A
37	ED-511907	D SILICON 1N4002 100/1.0A
38	*ED-412107J	D SILICON 1N4003 T26 200/1.0A
39	*ED-408807J	D ZENER H HZS12C3
40	*ED-408910J	D ZENER H HZS16-3
41	ED-397399J	D ZENER H HZS3C3
42	*ED-412008J	D ZENER H HZS33-1L T26
43	ED-387762J	D ZENER H HZS36-3L
44	ED-397233J	D ZENER H HZS5C3
45	ED-387919J	D ZENER H HZS6A1L
46	ED-396059J	D ZENER H HZS6B2
47	*ED-400171J	D ZENER H HZS6C2L
48	ED-397400J	D ZENER H HZS7B2
49	ED-387763J	D ZENER H HZS7B3L
50	*ED-391002J	D ZENER H HZS7C3
51	ED-367502	D ZENER H HZS9A1L [EXCEPT EA,EK,EO]
52	ED-388368J	D ZENER H HZS9B3L
53	EE-412395J	TV TUNER ENV-578C9F1 EOH [EXCEPT EA,EK,EO]
54	EE-387607J1	TV TUNER TERB1-008B EK [EK]
55	EE-387604J3	TV TUNER TERE1-007D EOG [EO]
56	EE-387600J2	TV TUNER TERS1-002C EA [EA]
57	*EF-416663J	FUSE S504 T 250V 125MA
58	*EF-415062J	FUSE S506 T 250V 3.15A
59	EH-386637J	COMP R RGLE8X 103J
60	EH-416491J	DL EFDJLA13A
61	EI-416607J	IC AN3386NK-A
62	EI-373981J1	IC BA10393N
63	EI-389644J	IC BA403 [EOH-DN/DNV]
64	EI-364896	IC BA6138
65	EI-366892	IC BA7025L [EOG,P-EOG]
66	EI-397285J	IC BA7740S
67	EI-385995J	IC BA7755A
68	EI-414809J	IC BH7772KS
69	EI-416514J	IC CF70091A
70	EI-416942J1	IC CXP80724-190
71	EI-416635J	IC LA7116
72	EI-403234J1	IC LA7391A
73	EI-390053J	IC LA7910 [EXCEPT EK]
74	EI-403233J	IC LB1641
75	EI-394856J	IC LC8992
76	EI-389622J	IC L5631
77	EI-408961J	IC MM1031XS
78	EI-403469J	IC MM1068XS
79	EI-416647J	IC MM1111XS [EOH-DN (Y2)]
80	EI-414859J	IC MM1112XS
81	EI-416646J	IC MM1113XS
82	EI-419099J	IC MV1820E/DP
83	EI-416734J	IC M38173M6-242FP QHXOPP1 [EXCEPT EOH-DNV]
84	EI-416735J	IC M38173M6-243FP QHXOPD1 [EOH-DNV]
85	EI-419100J	IC M38203M4-059FP QXUKGW2 [W612E]
86	EI-419101J	IC M38203M4-060FP QXFRGW2 [W612G,W622E]
87	EI-412300J	IC M50933-131FP QXDLCD1 [W602G]
88	EI-393325J	IC M5218AP
89	EI-416778J	IC NJM4558LA
90	EI-416620J	IC NJM7809FA
91	EI-400672J	IC S-8052ALB-LE
92	EI-385958J	IC SAA4700
93	EI-416652J	IC STK7576-S
94	EI-405224J	IC ST24C02AB1/AAB
95	EI-332259	IC TC4052BP
96	EI-310036	IC TC4066BP
97	EI-416609J	IC TDA1305T
98	EI-416611J	IC TDA8417 [EOH-DN/DNV]
99	EI-405722J	IC UPD6450CX-515
100	EI-408430J1	IC UPD75004CU-148 JXVPS2
101	EI-416783J	IC UPD75004CU-190 QXBSD1
102	EI-416691J	IC XC61AC3002TH T05
103	EI-416594J	IC XC61AC4202TH T05
104	EI-403451J	OSC CE CSB1200J 1.200MHZ
105	EI-403467J	OSC CE CSB500F40 15.680KHZ
106	EI-405327J	OSC CE CST6.00MGW 6.000MHZ
107	EI-367882J1	OSC CE FCR4.19MC3 4.190MHZ
108	EI-416872J	OSC X'TAL APS1004A 17.734475MH
109	EI-368825M	OSC X'TAL C-002RX 32.768KHZ
110	EI-419093J	OSC X'TAL HC-43/U PDC 27750KHZ
111	EI-416636J	OSC X'TAL HC-49/U 12000KHZ
112	EI-416616J	OSC X'TAL HC-49/U 16384KHZ
113	EI-368825	OSC X'TAL MX-38T 32.768KHZ
114	EI-416791J	OSC X'TAL 4322-143-05571 10MHZ [EOH-DN/DNV]
115	EI-381632J	OSC X'TAL 86686 4.433619MHZ

Ref. No.	Part No.	Description
116	*EJ-416590J1	SOCKET INLET CCT-2302-0371 2P [AC INLET]
117	EJ-412291J	TERMINAL LCD (6) B1043
118	EM-408437J	IND LCD LD-B5444A ENGLISH
119	EO-418430J	COIL OSC 1 V1170-TK 70.0KHZ
120	*ER-401039J	R FUSE V T05 ERD2FCV 1/4W 4R7J
121	*ER-400729J	R FUSE V T05 RF25SCVTP1/4WR47K
122	*ER-404093J	R FUSE V T05 RF25SCVTP1/4WR56K
123	*ER-410380J	R FUSE V T05 RF25SCVTP1/4WR91K
124	ES-373099	SW LEAF MTS10110MPC1
125	ES-387465J	SW MODE SELECT MMS00070ZLBO [SW1]
126	ES-414811J	SW SLIDE CHIP SSSS21 01-02N
127	ES-394558J	SW TACT SKHRAA
128	ET-411995J	DETECTOR GP1U581X
129	ET-416640J	DETECTOR RPI-352
130	ET-413009J	TR CHIP 2SC2884-Y TE12R T12E
131	ET-356336	TR DTA114ES [EXCEPT EA,EK]
132	ET-363953	TR DTA114TS
133	ET-375983	TR DTA124TS [EOG,P-EOG,EOH-DNV]
134	ET-354415	TR DTA144ES
135	ET-373985	TR DTA144TS
136	ET-353897	TR DTC114ES
137	ET-360399	TR DTC114TS
138	ET-394881J	TR DTC114WS
139	ET-416622J	TR DTC115US T05
140	ET-382952J	TR DTC123ES
141	ET-408826J	TR DTC143EL T05
142	ET-354364	TR DTC143TS
143	ET-373391	TR DTC143ZS [EOG,P-EOG,EOH-DNV]
144	ET-396488J	TR DTC144EL T05
145	ET-354414	TR DTC144ES [EA]
146	ET-370310	TR DTC144TS
147	ET-416600J	TR DTC144VS T05
148	ET-369075	TR FET 2SJ107 GR,BL
149	ET-356236	TR FET 2SK363 GR,BL [EXCEPT EA,EK,EO]
150	ET-361490	TR PHOTO PN268 [TR1]
151	ET-390010J	TR PHOTO PT4800 [TR2]
152	ET-390009J	TR PHOTO PT493F [TR4]
153	ET-364040	TR UN421D
154	ET-356224	TR 2SA1286 G,H,J F05
155	ET-353899	TR 2SA1317 S,T,U
156	ET-404498J	TR 2SB1306 Q,R T05 [EOG,P-EOG,EOH-DNV]
157	ET-416589J	TR 2SB1375
158	ET-388338J	TR 2SB1425 S,E
159	ET-414816J	TR 2SC2668 Y T05
160	ET-397160J	TR 2SC3330 R,S,T,U,V
161	ET-416601J	TR 2SD1960 T05
162	ET-391025J	TR 2SD2012
163	ET-396072J	TR 2SD2159 V,W
164	ET-416588J	TR 2SD2166 Q,R,S
165	EX-405691J	THERMISTOR NTH5D332KA
166	EX-412521J	THERMISTOR 911P83E101NH07 T05
167	EZ-417487J1	IND NAME PLATE (13)-E [W612E]
168	EZ-417288J	IND NAME PLATE (13)-G [W612G]
169	EZ-418326J	IND NAME PLATE (13)-SVE [W622E]
170	EZ-415491J	IND NAME PLATE (3)-G [W602G]
171	HE-390013J	HEAD E HVFME0020A
172	HR-405340J	HEAD COMBO HVMZA1121A
173	HZ-408193J	ROLLER HEAD CLEANER
174	MB-387289J	BELT CAPSTAN
175	MB-414326J	KEY RUBBER
176	MI-387294J1	IDLER PART
177	ML-391745J3	ARM DAMPER
178	ML-387350J1	ARM LID OPENER
179	ML-387423J	ARM LOADING BRAKE
180	ML-387277J4	ARM REVIEW PART
181	ML-387402J1	LEVER TRIGGER
182	ML-387316J	MAIN BRAKE (S) PART
183	ML-387318J	MAIN BRAKE (T) PART
184	ML-387321J1	REVIEW BRAKE PART
185	ML-387324J1	SLIDER BRAKE PART
186	ML-404944J	SLIDER TRIGGER (2)
187	MP-404852J	PINCH ROLLER (2) PART
188	MR-387406J	HOLDER THRUST WORM
189	MR-391968J	PULLEY TRIGGER (2)
190	MR-407378J1	ROLLER IMPEDANCE (2)
191	MT-390954J1	DISK (2) PART
192	MT-407370J	DISK (4) PART
193	MZ-387298J5	DISK CLUTCH PART
194	MZ-387331J2	GEAR CAM SLIDER
195	MZ-387335J	GEAR EJECT
196	MZ-387333J1	GEAR FRONT LOADING
197	MZ-V1102A090A	GEAR TOGGLE (S) BLK 425EA
198	MZ-V1102A100A	GEAR TOGGLE (T) BLK 425EA
199	MZ-387332J	GEAR WORM WHEEL

HEAD DRUM BLOCK



2. HEAD DRUM BLOCK

Ref. No.	Part No.	Description
1	BV-V1123A410C	LOWER DRUM BLK F600EA
2	BV-V1123A420C	UPPER DRUM BLK F600EA
3	ZS-321298	BID30X08STL CMT
4	SZ-387388J	HOLDER FPC
5	ZS-358936	ST BID30X06STL CMT
6	MA-387474J3	BASE DRUM
7	ZS-563444	BID26X08STL CMT
8	BM-401296J1	MOTOR E20EL89 [DRUM MOTOR]
9	ZS-467796	PAN26X12STL CMT
11	ZS-379350	PAN30X06STL CMT
12	ZS-336714	ST BID30X12STL CMT
13	VT-401282J	EARTH BRUSH PART AG
14	ZS-409216J	ST PAN30X07STL CMT C080

NOTE:
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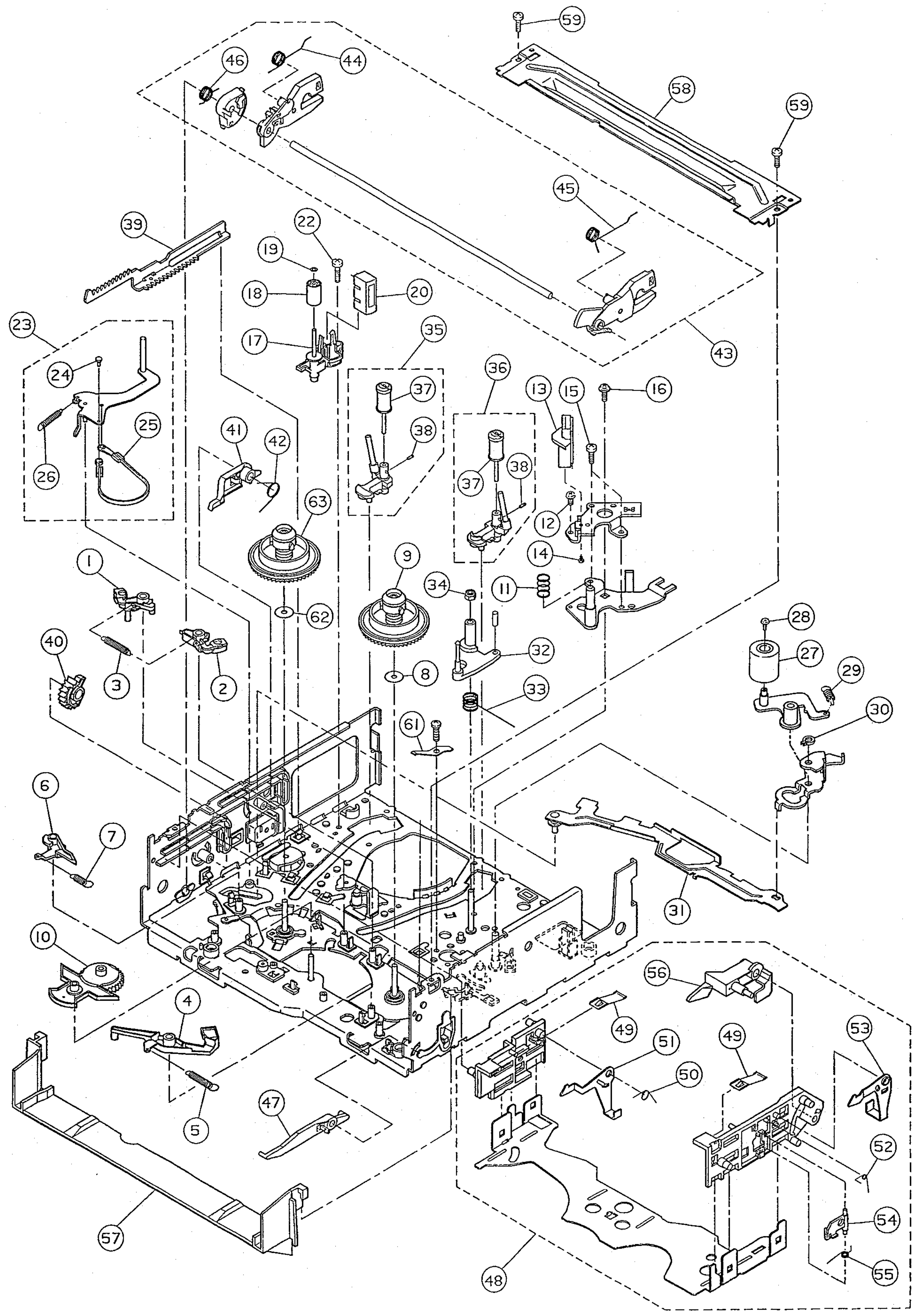
MECHA BLOCK (1)



3. MECHA BLOCK (1)

Ref. No.	Part No.	Description
1	ML-387316J	MAIN BRAKE (S) PART
2	ML-387318J	MAIN BRAKE (T) PART
3	ZG-387320J	SP PULL MAIN BRAKE
4	ML-387321J1	REVIEW BRAKE PART
5	ZG-387323J	SP PULL REVIEW BRAKE
6	ML-387423J	ARM LOADING BRAKE
7	ZG-387467J	SP PULL LOADING BRAKE
8	ZW-389814J	PW31X110X050PSL
9	MT-390954J1	DISK (2) PART
10	MI-387294J1	IDLER PART
11	ZG-387438J1	SP PUSH A/C
12	ZS-410851J	PAN30X070STL CMT CP
13	HR-405340J	HEAD COMBO HVMZA1121A
14	ZS-404844J	PAN20X02STL BZN PS1
15	ZS-321298	BID30X08STL CMT
16	ZS-409216J	ST PAN30X07STL CMT C080
17	MZ-407375J1	HOLDER FE HEAD (2) PART
18	MR-407378J1	ROLLER IMPEDANCE (2)
19	ZW-409602J	SLIT W17X035X025PSL
20	HE-390013J	HEAD E HVFME0020A
22	ZS-336714	ST BID30X12STL CMT
23	BL-V1102A050B	TENSION ARM BLK G60EA-D
24	SZ-407187J2	HOLDER LEVER TENSION (2)
25	ML-390768J4	TENSION BAND PART
26	ZG-387272J	SP PULL TENSION
27	MP-404852J	PINCH ROLLER (2) PART
28	ZS-464703	BID20X04STL CMT
29	ZG-404846J	SP PULL PINCH
30	ZW-332843	RETAINING RING GRIP 380STL ACP
31	ML-387431J1	SLIDER PINCH PART
32	ML-387277J4	ARM REVIEW PART
33	ZG-387282J	SP TORSION REVIEW
34	ZW-401776J	NUT REVIEW
35	BV-V1102A070A	LEADER S BLK 425EA
36	BV-V1102A080A	LEADER T BLK 425EA
37	VT-387394J1	GUIDE ROLLER D8 PART
38	ZS-374458	6SET20X030SCM PKR FP
39	ML-387428J	SLIDER FRONT LOADING
40	MZ-387335J	GEAR EJECT
41	ML-391745J3	ARM DAMPER
42	ZG-395567J	SP TORSION ARM DAMPER
43	BL-V1102A140A	ARM LOADING BLK 425EA
44	ZG-387417J	SP TORSION LOAD (S)
45	ZG-387418J	SP TORSION LOAD (T)
46	ZG-392831J	SP TORSION JOINT (2)
47	ML-387350J1	ARM LID OPENER
48	BV-V1102A150A	CASSETTE LOAD BLK 425EA
49	ZG-387348J1	SP PLATE HOLDER
50	ZG-387421J	SP TORSION DAMPER (S)
51	ML-387345J	LEVER DAMPER (S)
52	ZG-388290J1	SP TORSION DAMPER (T)
53	ML-387346J1	LEVER DAMPER (T)
54	ML-387344J	LEVER LOCK RELEASE
55	ZG-387420J1	SP TORSION RELEASE
56	ML-387349J2	ARM SHUTTER
57	SE-395554J1	GUIDE FRONT (2)
58	MZ-406134J	PLATE UPPER (2)
59	ZS-358936	ST BID30X06STL CMT
61	ZG-392294J	SP PLATE EARTH
62	ZW-410733J	PW31X050X050PSL
63	MT-407370J	DISK (4) PART
64	BB-V1172A020A	MECHA DECK BLK G60EA-D

NOTE:
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4. MECHA BLOCK (2)

Ref. No.	Part No.	Description
1	ML-387324J1	SLIDER BRAKE PART
2	ML-404944J	SLIDER TRIGGER (2)
3	ML-387402J1	LEVER TRIGGER
4	ZG-387468J	SP PULL SLIDER
5	ZG-387403J	SP TORSION COUPLING
6	ZW-389923J	PW26X060X050PSL
7	MZ-387298J5	DISK CLUTCH PART
8	ZW-387492J	SLIT W21X040X050PSL
9	BM-415160J	MOTOR DFX-67D3VWA [CAPSTAN MOTOR]
10	ZS-365149	PT BID26X06STL CMT
11	MB-387289J	BELT CAPSTAN
12	EA-387496J	PC (#) SENSOR
13	ED-390011J	D LED GL451 INFRARED [D1]
14	ED-390012J	D LED GL4800 INFRARED [D2]
15	EJ-387497J	SOCKET HOUSING 5062-30-10-13 [PS1]
16	EJ-381837J	SOCKET 174074-5 5P [P1]
17	ES-387465J	SW MODE SELECT MMS00070ZLBO [SW1]
18	ET-390010J	TR PHOTO PT4800 [TR2]
19	ET-390009J	TR PHOTO PT493F [TR4]
20	EW-389313J	CORD FFC P1.25 L=120 13P [WP1]
21	MZ-387430J	HOLDER D-LED
22	MZ-387445J	HOLDER S SENSOR
23	MZ-387446J	HOLDER PHOTO SENSOR
24	ET-361490	TR PHOTO PN268 [TR1]
25	MZ-V1102A090A	GEAR TOGGLE (S) BLK 425EA
26	MZ-V1102A100A	GEAR TOGGLE (T) BLK 425EA
27	ZG-387413J1	SP PULL TOGGLE
28	MZ-387332J	GEAR WORM WHEEL
29	MZ-387331J2	GEAR CAM SLIDER
30	MZ-387333J1	GEAR FRONT LOADING
31	BM-387503J	MOTOR PART [LOADING MOTOR]
32	MZ-409537J	GEAR WORM (2) PART
33	MR-391968J	PULLEY TRIGGER (2)
34	ZG-387443J	SP TRIGGER
35	MR-387406J	HOLDER THRUST WORM
36	ZS-425981	BID30X03STL CMT
37	BL-387458J2	CAPSTAN BRAKE PART
38	ZG-387502J	SP PULL CAPSTAN BRAKE
39	ES-373099	SW LEAF MTS10110MPC1
40	ZS-389950J	PT BID26X10STL CMT
41	ZS-358936	ST BID30X06STL CMT
42	ML-387311J2	ARM COUPLING
43	ES-408470J	SW MICRO HXW0593-01-100 01-1 [S-SW]

NOTE:
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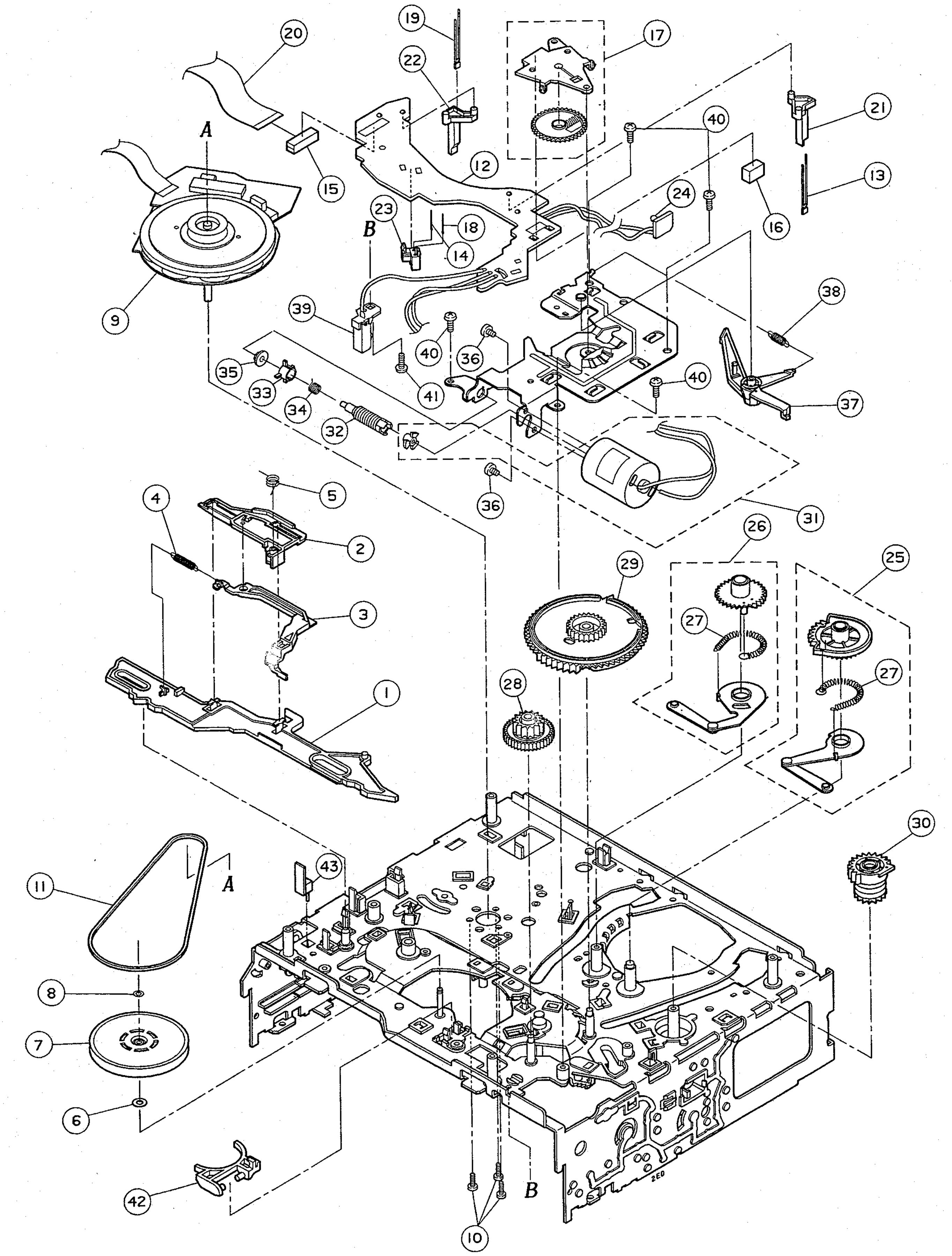
MECHA BLOCK (2)



5. P.C. BOARD BLOCK

Ref. No.	Part No.	Description
1-A	BA-V1172A600A	PC (#) MAIN BLK G60EA-D
1-B	BA-V1172Q600B	FR PC (#) MAIN BLK G60EK-N/FR [EK]
1-C	BA-V1172Q600C	FR PC (#) MAIN BLK G60EO-D/FR
1-D	BA-V1172A600D	PC (#) MAIN BLK G65EOG-D [EOG,P-EOG]
1-E	BA-V1172Q600E	FR PC (#) MAIN BLK G60EOH-D/FR
1-F	BA-V1172A600F	PC (#) MAIN BLK G60EOH-N
1-G	BA-V1172Q600G	FR PC (#) MAIN BLK G64EOH-DN/FR
1-H	BA-V1172Q600J	FR PC (#) MAIN BLK G64EOH-DN (Y2)/FR
1-J	BA-V1172Q600K	FR PC (#) MAIN BLK G64SV-EOHDNV/FR
2-A	BA-V1172A610D	PC PRE AMP BLK G74EK-VN [EA,EK]
2-B	BA-V1172A610E	PC PRE AMP BLK G70EO-D [EXCEPT EA,EK]
3-A	BA-V1172A630B	PC (#) OPERATION BLK G60EA-D
3-B	BA-V1172Q630A	FRPC (#) OPERATION BLK G60EK-N/FR
3-C	BA-V1172Q630H	FRPC (#) OPERATION BLK G64EK-N/FR
3-D	BA-V1172Q630C	FRPC (#) OPERATION BLK G60EO-D/FR
3-E	BA-V1172A630F	PC (#) OPERATION BLK G65EOG-D
3-F	BA-V1172Q630D	FRPC (#) OPERATION BLK G60EOH-D/FR
3-G	BA-V1172A630E	PC (#) OPERATION BLK G60EOH-N
3-H	BA-V1172Q630J	FRPC (#) OPERATION BLK G64EOH-DN/FR
3-J	BA-V1172Q630L	FRPC (#) OPERATION BLK G65P-EOG-D/FR
3-K	BA-V1172Q630M	FRPC (#) OPERATION BLK G64SV-EOHDNV/FR
4-A	BA-V1172A500B	PC (#) POWER BLK G65EOG-D [EOG,P-EOG]
4-B	BA-V1172A500A	PC (#) POWER BLK G60EA-D [EXCEPT EOG,P-EOG]
5	BA-V1172A660A	PC D-MULTI BLK G60EA-D [EA,EO,EOH-D,EOG,P-EOG]
6-A	BA-V1172A650A	PC D-NICAM BLK G60EK-N [EK,EOH-N]
6-B	BA-V1172A650B	PC D-NICAM BLK G64EOH-DN [EOH-DN/DNV]
7-A	BA-V1172A720A	PC (#) IN-OUT BLK G60EA-D [EA]
7-B	BA-V1172A720C	PC (#) IN-OUT BLK G65EOG-D [EOG,P-EOG]
7-C	BA-V1172Q720F	FR PC (#) IN-OUT BLK G64EOH-DN (Y2)/FR [EOH-DN (Y2)]
7-D	BA-V1172Q720B	FR PC (#) IN-OUT BLK G60EK-N/FR [EXCEPT EA,EOG,P-EOG,EOH-DN (Y2)]

PC (#) MAIN BLK CONSISTS OF FOLLOWING P.C BOARDS.
- MAIN P.C BOARD
- SERVO/SYSCON P.C BOARD

PC (#) OPERATION BLK CONSISTS OF FOLLOWING P.C BOARDS.
- OPERATION P.C BOARD
- DOOR POSITION DETECT P.C BOARD

PC (#) POWER BLK CONSISTS OF FOLLOWING P.C BOARDS.
- POWER SUPPLY P.C BOARD
- INLET P.C BOARD

PC (#) IN-OUT BLK CONSISTS OF FOLLOWING P.C BOARDS.
- IN-OUT (A) P.C BOARD
- IN-OUT (B) P.C BOARD

6. MAIN P.C. BOARD

Ref. No.	Part No.	Description
D1	ED-307572	D SILICON H 1SS131 [EO,EOG,P-EOG]
D2	ED-307572	D SILICON H 1SS131 [EO,EOG,P-EOG]
D5	ED-307572	D SILICON H 1SS131 [EXCEPT EA,EK,EO]
D6	ED-367502	D ZENER H HZS9A1L [EXCEPT EA,EK,EO]
D7	ED-387919J	D ZENER H HZS6A1L
D8	ED-307572	D SILICON H 1SS131
D10	ED-307572	D SILICON H 1SS131
D11	ED-307572	D SILICON H 1SS131
D101	ED-397233J	D ZENER H HZS5C3
D102	ED-307572	D SILICON H 1SS131
D103	ED-307572	D SILICON H 1SS131
D104	ED-307572	D SILICON H 1SS131
D105	ED-307572	D SILICON H 1SS131
D106	ED-387762J	D ZENER H HZS36-3L
D107	ED-511907	D SILICON 1N4002 100/1.0A
D108	ED-511907	D SILICON 1N4002 100/1.0A
D202	ED-307572	D SILICON H 1SS131
D203	ED-307572	D SILICON H 1SS131
D204	ED-307572	D SILICON H 1SS131
D205	ED-307572	D SILICON H 1SS131
D206	ED-307572	D SILICON H 1SS131 [EXCEPT EA,EK]
D207	ED-307572	D SILICON H 1SS131
D208	ED-307572	D SILICON H 1SS131
D209	ED-307572	D SILICON H 1SS131 [EXCEPT EA,EK]
D210	ED-307572	D SILICON H 1SS131
D211	ED-307572	D SILICON H 1SS131
D217	ED-360318	D SILICON H MA700
D218	ED-360318	D SILICON H MA700
D219	ED-360318	D SILICON H MA700
D220	ED-360318	D SILICON H MA700
D221	ED-307572	D SILICON H 1SS131
D222	ED-307572	D SILICON H 1SS131
D225	ED-307572	D SILICON H 1SS131
D250	ED-307572	D SILICON H 1SS131
D401	ED-307572	D SILICON H 1SS131
D402	ED-307572	D SILICON H 1SS131
D403	ED-307572	D SILICON H 1SS131
D404	ED-307572	D SILICON H 1SS131
D405	ED-307572	D SILICON H 1SS131
D406	ED-307572	D SILICON H 1SS131
D407	ED-307572	D SILICON H 1SS131
D408	ED-307572	D SILICON H 1SS131
D409	ED-307572	D SILICON H 1SS131
D410	ED-307572	D SILICON H 1SS131
D411	ED-307572	D SILICON H 1SS131
D412	ED-307572	D SILICON H 1SS131
D413	ED-307572	D SILICON H 1SS131
D414	ED-307572	D SILICON H 1SS131
DL201	EH-416491J	DL EFDJLA13A
FL351	EH-366894	FILTER CE SFE-4.16MB 4.16MHZ [EOG,P-EOG]
FL401	EO-418461J	COIL OSC 1 125-8077-41 70.0KHZ
FR1	*ER-410380J	R FUSE V T05 RF25SCVTP1/4WR91K
FR201	*ER-404093J	R FUSE V T05 RF25SCVTP1/4WR56K
FR401	*ER-401039J	R FUSE V T05 ERD2FCV 1/4W 4R7J
IC1	EI-390053J	IC LA7910 [EXCEPT EK]
IC2	EI-389622J	IC L5631
IC3	EI-416620J	IC NJM7809FA
IC201	EI-403234J1	IC LA7391A
IC202	EI-394856J	IC LC8992
IC203	EI-414859J	IC MM1112XS
IC204	EI-373981J1	IC BA10393N
IC351	EI-366892	IC BA7025L [EOG,P-EOG]
IC401	EI-364896	IC BA6138
IC402	EI-385995J	IC BA7755A
IC403	EI-414809J	IC BH7772KS
IF1-A	BV-416550J	VIF UNIT QHX EA [EA]
IF1-B	BV-416551J	VIF UNIT QHX EK [EK]
IF1-C	BV-416552J	VIF UNIT QHX EOG [EO,EOG,P-EOG]

Ref. No.	Part No.	Description
IF1-D	BV-416554J	VIF UNIT QHX EOHD [EOH-D]
IF1-E	BV-416555J	VIF UNIT QHX EOHN [EOH-N]
IF1-F	BV-416556J	VIF UNIT QHX EOHDN [EOH-DN/DNV]
L2	EO-351869	COIL FIX 1 LAP02 F05 820K [EXCEPT EK]
L3	EO-345865	COIL FIX 1 EL0606SKI 100J [EXCEPT EA,EK]
L4	EO-351862	COIL FIX 1 LAP02 F05 100K [EXCEPT EK]
L5	EO-351862	COIL FIX 1 LAP02 F05 100K [EXCEPT EK]
L6	EO-345865	COIL FIX 1 EL0606SKI 100J [EXCEPT EK]
L201	EO-357508	COIL FIX 1 LAP02 F05 151K
L203	EO-393331J	COIL FIX 1 EL0405RA T02 390K
L206	EO-356722	COIL FIX 1 LAP02 F05 6R8K
L207	EO-403937J	COIL FIX 1 EL0405RA T05 4R7J
L208	EO-345880	COIL FIX 1 EL0606SKI 820J
L211	EO-381197J	COIL FIX 1 EL0405SKI 471K
L212	EO-381195J	COIL FIX 1 EL0405SKI 331K
L213	EO-345881	COIL FIX 1 EL0606SKI 101J
L214	EO-345880	COIL FIX 1 EL0606SKI 820J
L215	EO-388161J	COIL FIX 1 EL0405SKI 560K
L216	EO-345880	COIL FIX 1 EL0606SKI 820J
L217	EO-351866	COIL FIX 1 LAP02 F05 330K [EXCEPT EA,EK]
L218	EO-354600	COIL FIX 1 LAP02 F05 101K
L219	EO-387799J	COIL FIX 1 EL0405SKI 180K
L220	EO-381193J	COIL FIX 1 EL0405SKI 271K
L221	EO-354600	COIL FIX 1 LAP02 F05 101K
L222	EO-354600	COIL FIX 1 LAP02 F05 101K
L223	EO-351866	COIL FIX 1 LAP02 F05 330K
L224	EO-353900	COIL FIX 1 LAP02 F05 150K
L225	EO-345880	COIL FIX 1 EL0606SKI 820J
L226	EO-345880	COIL FIX 1 EL0606SKI 820J
L227	EO-345880	COIL FIX 1 EL0606SKI 820J
L228	EO-345880	COIL FIX 1 EL0606SKI 820J
L230	EO-392817J	COIL FIX 1 EL0405SKI 1R2K
L300	EO-351862	COIL FIX 1 LAP02 F05 100K [EXCEPT EK]
L351	EO-345881	COIL FIX 1 EL0606SKI 101J [EOG,P-EOG]
L352	EO-368129	COIL FIX 1 TL-8 153J [EOG,P-EOG]
L401	EO-390717J	COIL FIX 1 LHL06TB T05 103J
MD1-A	BV-387610J1	RF CONVERTER YAA21-0809G EA [EA]
MD1-B	BV-403410J	RF CONVERTER MDLK6B733A EK [EK]
MD1-C	BV-403409J	RF CONVERTER MDLK6D755A EO [EXCEPT EA,EK]
TR1	ET-353899	TR 2SA1317 S,T,U
TR2	ET-397160J	TR 2SC3330 R,S,T,U,V
TR3	ET-353899	TR 2SA1317 S,T,U [EA,EK,EO]
TR4	ET-356236	TR FET 2SK363 GR,BL [EXCEPT EA,EK,EO]
TR5	ET-397160J	TR 2SC3330 R,S,T,U,V [EXCEPT EA,EK,EO]
TR6	ET-382952J	TR DTC123ES
TR7	ET-397160J	TR 2SC3330 R,S,T,U,V [EOH]
TR8	ET-353899	TR 2SA1317 S,T,U [EA]
TR9	ET-414816J	TR 2SC2668 Y T05
TR10	ET-353899	TR 2SA1317 S,T,U
TR13	ET-397160J	TR 2SC3330 R,S,T,U,V
TR14	ET-397160J	TR 2SC3330 R,S,T,U,V
TR15	ET-353899	TR 2SA1317 S,T,U
TR16	ET-354414	TR DTC144ES [EA]
TR18	ET-404498J	TR 2SB1306 Q,R T05 [EOG,P-EOG,EOH-DNV]
TR19	ET-373391	TR DTC143ZS [EOG,P-EOG,EOH-DNV]
TR20	ET-354414	TR DTC144ES [EOG,P-EOG,EOH-DNV]
TR21	ET-397160J	TR 2SC3330 R,S,T,U,V [EXCEPT EK]

Ref. No.	Part No.	Description
TR22	ET-397160J	TR 2SC3330 R,S,T,U,V
TR24	ET-375983	TR DTA124TS [EOG,P-EOG,EOH-DNV]
TR101	ET-404498J	TR 2SB1306 Q,R T05
TR102	ET-373391	TR DTC143ZS
TR103	ET-394881J	TR DTC114WS
TR104	ET-404498J	TR 2SB1306 Q,R T05
TR105	ET-373391	TR DTC143ZS
TR106	ET-391025J	TR 2SD2012
TR107	ET-416622J	TR DTC115US T05
TR108	ET-397160J	TR 2SC3330 R,S,T,U,V
TR109	ET-363953	TR DTA114TS
TR110	ET-375983	TR DTA124TS
TR201	ET-354414	TR DTC144ES [EXCEPT EA,EK]
TR202	ET-397160J	TR 2SC3330 R,S,T,U,V
TR204	ET-354414	TR DTC144ES
TR205	ET-364040	TR UN421D
TR206	ET-397160J	TR 2SC3330 R,S,T,U,V
TR207	ET-397160J	TR 2SC3330 R,S,T,U,V
TR208	ET-397160J	TR 2SC3330 R,S,T,U,V
TR209	ET-354415	TR DTA144ES
TR211	ET-356336	TR DTA114ES [EXCEPT EA,EK]
TR212	ET-397160J	TR 2SC3330 R,S,T,U,V
TR213	ET-397160J	TR 2SC3330 R,S,T,U,V
TR214	ET-397160J	TR 2SC3330 R,S,T,U,V
TR215	ET-354414	TR DTC144ES [EXCEPT EA,EK]
TR218	ET-397160J	TR 2SC3330 R,S,T,U,V
TR220	ET-356336	TR DTA114ES
TR221	ET-353899	TR 2SA1317 S,T,U
TR222	ET-353899	TR 2SA1317 S,T,U
TR223	ET-354415	TR DTA144ES
TR224	ET-360399	TR DTC114TS
TR225	ET-388338J	TR 2SB1425 S,E
TR226	ET-353899	TR 2SA1317 S,T,U
TR227	ET-360399	TR DTC114TS
TR228	ET-354414	TR DTC144ES
TR229	ET-354364	TR DTC143TS
TR232	ET-354414	TR DTC144ES
TR234	ET-356336	TR DTA114ES
TR235	ET-354414	TR DTC144ES
TR236	ET-354415	TR DTA144ES
TR238	ET-397160J	TR 2SC3330 R,S,T,U,V
TR239	ET-397160J	TR 2SC3330 R,S,T,U,V
TR240	ET-397160J	TR 2SC3330 R,S,T,U,V
TR242	ET-354414	TR DTC144ES
TR243	ET-354414	TR DTC144ES
TR246	ET-353899	TR 2SA1317 S,T,U
TR247	ET-353899	TR 2SA1317 S,T,U
TR248	ET-360399	TR DTC114TS
TR250	ET-353897	TR DTC114ES
TR273	ET-353897	TR DTC114ES
TR351	ET-397160J	TR 2SC3330 R,S,T,U,V [EOG,P-EOG]
TR352	ET-397160J	TR 2SC3330 R,S,T,U,V [EOG,P-EOG]
TR401	ET-353897	TR DTC114ES
TR402	ET-363953	TR DTA114TS
TR403	ET-397160J	TR 2SC3330 R,S,T,U,V
TR404	ET-397160J	TR 2SC3330 R,S,T,U,V
TR407	ET-396072J	TR 2SD2159 V,W
TR408	ET-356224	TR 2SA1286 G,H,J F05
TR409	ET-353897	TR DTC114ES
TR410	ET-354414	TR DTC144ES
TR411	ET-354415	TR DTA144ES
TR412	ET-360399	TR DTC114TS
TR413	ET-360399	TR DTC114TS
TR414	ET-397160J	TR 2SC3330 R,S,T,U,V
TR415	ET-356224	TR 2SA1286 G,H,J F05
TR416	ET-354414	TR DTC144ES
TR418	ET-360399	TR DTC114TS
TU1-A	EE-387600J2	TV TUNER TERS1-002C EA [EA]
TU1-B	EE-387607J1	TV TUNER TERB1-008B EK [EK]
TU1-C	EE-387604J3	TV TUNER TERE1-007D EOG [EO]
TU1-D	EE-412395J	TV TUNER ENV-578C9F1 EOH [EXCEPT EA,EK,EO]
VR201	EV-397066J	R S-FIX H T05EVNDXAA03 0.1W333

Ref. No.	Part No.	Description
VR203	EV-389482J	R S-FIX H T05EVNDXAA03 0.1W682
VR204	EV-389489J	R S-FIX H T05EVNDXAA03 0.1W472
VR205	EV-389476J	R S-FIX H T05EVNDXAA03 0.1W103
VR403	EV-389476J	R S-FIX H T05EVNDXAA03 0.1W103
VR404	EV-416657J	R S-FIX H T05EVNDXAA03 0.1W203
VR405	EV-389476J	R S-FIX H T05EVNDXAA03 0.1W103
VR406	EV-389478J	R S-FIX H T05EVNDXAA03 0.1W153
VR407	EV-416657J	R S-FIX H T05EVNDXAA03 0.1W203
VR408	EV-389476J	R S-FIX H T05EVNDXAA03 0.1W103
VR409	EV-397066J	R S-FIX H T05EVNDXAA03 0.1W333
VR410	EV-389476J	R S-FIX H T05EVNDXAA03 0.1W103
X201	EI-381632J	OSC X'TAL 86686 4.433619MHZ

7. SERVO/SYSCON P.C. BOARD

Ref. No.	Part No.	Description
D601	ED-387763J	D ZENER H HZS7B3L
D602	ED-388368J	D ZENER H HZS9B3L
D603	ED-307572	D SILICON H 1SS131
D604	ED-307572	D SILICON H 1SS131
D605	ED-307572	D SILICON H 1SS131
D606	ED-307572	D SILICON H 1SS131
D607	ED-307572	D SILICON H 1SS131
D608	ED-307572	D SILICON H 1SS131
D609	ED-307572	D SILICON H 1SS131
D610	ED-307572	D SILICON H 1SS131
D611	ED-307572	D SILICON H 1SS131
D701	ED-307572	D SILICON H 1SS131 [EXCEPT EA,EK]
D702	ED-307572	D SILICON H 1SS131
FR601	*ER-400729J	R FUSE V T05 RF25SCVTP1/4WR47K
IC601	EI-416942J1	IC CXP80724-190
IC602	EI-403233J	IC LB1641
IC603	EI-416635J	IC LA7116
IC701	EI-405722J	IC UPD6450CX-515
IC702	EI-403469J	IC MM1068XS
L601	EO-345881	COIL FIX 1 EL0606SKI 101J
L602	EO-381189J	COIL FIX 1 EL0405SKI 100K
L701	EO-345881	COIL FIX 1 EL0606SKI 101J
L702	EO-381196J	COIL FIX 1 EL0405SKI 470K
L703	EO-356722	COIL FIX 1 LAP02 F05 6R8K
L704	EO-351866	COIL FIX 1 LAP02 F05 330K
L705	EO-351866	COIL FIX 1 LAP02 F05 330K [EXCEPT EA,EK]
L706	EO-345880	COIL FIX 1 EL0606SKI 820J
R602	ER-353877	R OMF H S15 FS 1W 1R0J
TR601	ET-354414	TR DTC144ES
TR602	ET-354414	TR DTC144ES
TR603	ET-354414	TR DTC144ES
TR604	ET-370310	TR DTC144TS
TR605	ET-370310	TR DTC144TS
TR606	ET-373985	TR DTA144TS
TR607	ET-370310	TR DTC144TS
TR608	ET-354414	TR DTC144ES
TR701	ET-353899	TR 2SA1317 S,T,U
TR702	ET-354414	TR DTC144ES
TR703	ET-356336	TR DTA114ES [EXCEPT EA,EK]
TR704	ET-356336	TR DTA114ES [EXCEPT EA,EK]
TR705	ET-397160J	TR 2SC3330 R,S,T,U,V [EXCEPT EA,EK]
TR706	ET-354414	TR DTC144ES [EXCEPT EA,EK]
TR707	ET-397160J	TR 2SC3330 R,S,T,U,V
TR708	ET-353899	TR 2SA1317 S,T,U
TR709	ET-353899	TR 2SA1317 S,T,U
TR710	ET-353899	TR 2SA1317 S,T,U
X601	EI-416636J	OSC X'TAL HC-49/U 12000KHZ
X701	EI-416872J	OSC X'TAL APS1004A 17.734475MH
X702	EI-403467J	OSC CE CSB500F40 15.680KHZ

8. PRE-AMP P.C. BOARD

Ref. No.	Part No.	Description
D1	ED-307572	D SILICON H 1SS131
D2	ED-307572	D SILICON H 1SS131
D3	ED-307572	D SILICON H 1SS131
D4	ED-307572	D SILICON H 1SS131
D5	ED-397399J	D ZENER H HZS3C3
D6	ED-396059J	D ZENER H HZS6B2
D7	ED-307572	D SILICON H 1SS131
FL101	EO-418430J	COIL OSC 1 V1170-TK 70.0KHZ
IC1	EI-416607J	IC AN3386NK-A
IC101	EI-397285J	IC BA7740S
L2	EO-381195J	COIL FIX 1 EL0405SKI 331K
L3	EO-414829J	COIL FIX 1 LAP02 T26 181J
L4	EO-364966	COIL FIX 1 LAP02 F05 120K
L5	EO-414831J	COIL FIX 1 LAP02 T26 680J
L6	EO-351862	COIL FIX 1 LAP02 F05 100K
L7	EO-351869	COIL FIX 1 LAP02 F05 820K
L8	EO-345881	COIL FIX 1 EL0606SKI 101J
L10	EO-353901	COIL FIX 1 LAP02 F05 560K
L12	EO-353900	COIL FIX 1 LAP02 F05 150K
L13	EO-381193J	COIL FIX 1 EL0405SKI 271K
L101	EO-345881	COIL FIX 1 EL0606SKI 101J
L102	EO-345881	COIL FIX 1 EL0606SKI 101J
L103	EO-345881	COIL FIX 1 EL0606SKI 101J
P12	EJ-416608J	SOCKET 00 6216 024 000 24P
TH1	EX-405691J	THERMISTOR NTH5D332KA
TR1	ET-397160J	TR 2SC3330 R,S,T,U,V
TR2	ET-354364	TR DTC143TS [EXCEPT EA,EK]
TR3	ET-360399	TR DTC114TS
TR4	ET-354414	TR DTC144ES
TR5	ET-354414	TR DTC144ES
TR6	ET-364040	TR UN421D
TR7	ET-353897	TR DTC114ES
TR8	ET-397160J	TR 2SC3330 R,S,T,U,V
TR9	ET-397160J	TR 2SC3330 R,S,T,U,V
TR10	ET-397160J	TR 2SC3330 R,S,T,U,V
TR11	ET-353899	TR 2SA1317 S,T,U
TR12	ET-353899	TR 2SA1317 S,T,U
TR13	ET-360399	TR DTC114TS
TR15	ET-397160J	TR 2SC3330 R,S,T,U,V
TR16	ET-397160J	TR 2SC3330 R,S,T,U,V
TR17	ET-397160J	TR 2SC3330 R,S,T,U,V
TR18	ET-353899	TR 2SA1317 S,T,U
TR19	ET-356224	TR 2SA1286 G,H,J F05
TR21	ET-364040	TR UN421D
TR22	ET-360399	TR DTC114TS
TR23	ET-354414	TR DTC144ES [EXCEPT EA,EK]
TR25	ET-354415	TR DTA144ES
TR101	ET-354414	TR DTC144ES
TR102	ET-360399	TR DTC114TS
TR103	ET-397160J	TR 2SC3330 R,S,T,U,V
VR1	EV-403988J	R S-FIX V T05EVNDCAA03 0.1W102
VR2	EV-404249J	R S-FIX V T05EVNDCAA03 0.1W681
1	EW-416578J	CORD FFC BD P1.25 L=230 24P

9. OPERATION P.C. BOARD

Ref. No.	Part No.	Description
D1	ED-307572	D SILICON H 1SS131
D2	ED-307572	D SILICON H 1SS131
D3	ED-307572	D SILICON H 1SS131
D4	ED-307572	D SILICON H 1SS131
D5	ED-307572	D SILICON H 1SS131
D6	ED-307572	D SILICON H 1SS131
D9	ED-307572	D SILICON H 1SS131
D10	ED-397400J	D ZENER H HZS7B2
D11	ED-307572	D SILICON H 1SS131 [EOG,P-EOG]
D12	ED-307572	D SILICON H 1SS131 [EOG,P-EOG,EOH-DNV]
D13	ED-307572	D SILICON H 1SS131 [EOH]
D17	ED-307572	D SILICON H 1SS131 [EOG,P-EOG]
D18	ED-307572	D SILICON H 1SS131 [EK,EOH-N/DN/DNV]
D20	ED-307572	D SILICON H 1SS131 [EK]
D21	ED-307572	D SILICON H 1SS131 [EXCEPT EK,EOH-N]
D22	ED-307572	D SILICON H 1SS131 [EA]
D24	ED-307572	D SILICON H 1SS131 [EO,EOH]
D25	ED-307572	D SILICON H 1SS131 [G64EK,P-EOG,EOH-DNV]
FL1	EM-416637J	IND FL FIP12CJM7 CHARACTER
IB2	EH-378541J	COMP R RGLE3X 473J
IB3	EH-386636J	COMP R RGLE6X 103J
IB4	EH-378540J	COMP R RGLE5X 103J
IB5	EH-383056J	COMP R RGLE4X 103J
IB8	ER-378514J	R OMF H S12 FS 1W 8R2J
IB9	EH-383083J	COMP R RGLE3X 103J
IB10	EH-383057J	COMP R RGLE5X 473J
IC1-A	EI-416734J	IC M38173M6-242FP QHXOPP1 [EXCEPT EOH-DNV]
IC1-B	EI-416735J	IC M38173M6-243FP QHXOPD1 [EOH-DNV]
IC2	EI-405224J	IC ST24C02AB1/AAB
IC3	EI-416691J	IC XC61AC3002TH T05
L1	EO-354600	COIL FIX 1 LAP02 F05 101K
L2	EO-354600	COIL FIX 1 LAP02 F05 101K
L3	EO-354600	COIL FIX 1 LAP02 F05 101K [EXCEPT EK]
L4	EO-354600	COIL FIX 1 LAP02 F05 101K [EXCEPT EK]
P9	EJ-416650J	SOCKET 00 6216 013 100 13P
P10	EJ-416651J	SOCKET 00 6216 016 100 16P
PH1	ET-411995J	DETECTOR GP1U581X
SW1	ES-349474	SW TACT SKHHAM004A
SW2	ES-349474	SW TACT SKHHAM004A
SW3	ES-349474	SW TACT SKHHAM004A
SW4	ES-349474	SW TACT SKHHAM004A
SW5	ES-349474	SW TACT SKHHAM004A
SW6	ES-349474	SW TACT SKHHAM004A
SW7	ES-349474	SW TACT SKHHAM004A
SW8	ES-349474	SW TACT SKHHAM004A
SW9	ES-349474	SW TACT SKHHAM004A
SW11	ES-349474	SW TACT SKHHAM004A
SW12	ES-349474	SW TACT SKHHAM004A
SW14	ES-349474	SW TACT SKHHAM004A
TR1	ET-396488J	TR DTC144EL T05
TR2	ET-408826J	TR DTC143EL T05
TR3	ET-408826J	TR DTC143EL T05
TR4	ET-408826J	TR DTC143EL T05
VR1	EV-416648J	VR ROTARY RK09K1130L15 C203 FL
X1	EI-368825	OSC X'TAL MX-38T 32.768KHZ
X2	EI-405327J	OSC CE CST6.00MGW 6.000MHZ
1	EW-416579J	CORD FFC BD P1.25 L=290 13P
2	EW-416580J	CORD FFC BD P1.25 L=130 16P

10. DOOR POSITION DETECT P.C. BOARD

Ref. No.	Part No.	Description
PH201	ET-416640J	DETECTOR RPI-352

11. VIF UNIT

Ref. No.	Part No.	Description
CF1-A	EH-373916	FILTER CE SAF36.9MZ70Z [EA]
CF1-B	EH-714628	FILTER CE SAW SAF39.5MZ70Z [EK]
CF1-C	EH-730625J	FILTER CE SAF38.9MZW70Z [EXCEPT EA,EK]
CF2-A	EH-373919	FILTER CE TPS6.0MB [EK]
CF2-B	EH-368948	FILTER CE TPS5.5MW 5.5000MHZ [EXCEPT EK]
CF3-A	EH-732529J	FILTER CE SAW SAF31.4MC70Z [EA]
CF3-B	EH-416920J	FILTER CE SFT6.0MA [EK]
CF3-C	EH-394948J	FILTER CE SFT5.5MA [EOH-N/DN/DNV]
CF4-A	EH-725827J	FILTER CE SAF32.9MDE70Z [EK]
CF4-B	EH-732528J	FILTER CE SAW SAF33.4MC70Z [EOG,EO,EOH-D]
CF4-C	EH-732524J	FILTER CE SAW SAF33.0MDA70Z [EOH-N/DN/DNV]
CF5	EH-749839	FILTER CE TPS5.5MD [EOH-N]
CF6	EH-749840	FILTER CE TPS6.0MD [EK]
D1	ED-733546J	D VARACTOR CHIP HVU202A3TRF [EOH]
IC1-A	EI-729997J	IC LA7575 [EA,EOG,EO,EOH-D]
IC1-B	EI-733547J	IC LA7577 [EK,EOH-N/DN/DNV]
IC2	EI-397123J	IC TA8703S [EK,EOH-N/DN/DNV]
L1	EO-725824J	COIL TRAP 6F16185A1 [EOG,EO]
L2	EO-725825J	COIL TRAP 6F16186A1 [EOG,EO]
L3	EO-391141J	COIL FIX 1 EL0405SKI R47M [EXCEPT EOG,EO]
L4-A	EO-392817J	COIL FIX 1 EL0405SKI 1R2K [EA,EOG,EO,EOH-D]
L4-B	EO-381188J	COIL FIX 1 EL0405SKI 1R0K [EK,EOH-N/DN/DNV]
L5-A	EO-725954J	COIL SIF DET 6F16263A3 [EK]
L5-B	EO-725953J	COIL SIF DET 6F16263A2 [EOH-N/DN/DNV]
L6	EO-388160J	COIL FIX 1 EL0405SKI 1R8K
L7	EO-714614	COIL RF 6F16115B1
L8-A	EO-732526J	COIL OSC 6F16403A2 [EA]
L8-B	EO-732656J	COIL OSC 6F16403B1 [EXCEPT EA]
L9	EO-387781J	COIL FIX 1 EL0405SKI 120K
L10	EO-381196J	COIL FIX 1 EL0405SKI 470K
L12	EO-387798J	COIL FIX 1 EL0405SKI 150K [EK]
Q1	ET-725820J	TR CHIP 2SC2735J
Q2	ET-731437J	TR CHIP DTC114EK [EOG,EO]
Q3	ET-731437J	TR CHIP DTC114EK [EOG,EO]
Q5	ET-713614	TR CHIP 2SA1235 E,F [EK,EOH-N/DN/DNV]
Q6	ET-370819	TR.CHIP 2SC3052
Q7	ET-732638J	TR CHIP DTC144EK [EOH]
Q8	ET-713614	TR CHIP 2SA1235 E,F [EOH]
Q9	ET-370819	TR.CHIP 2SC3052 [EK,EOH-N/DN/DNV]
VR1	EV-733235J	R S-FIX H VG068TLT 203
VR2	EV-733235J	R S-FIX H VG068TLT 203 [EOG,EO]
VR3-A	EV-732502J	R S-FIX H RH0636C 103 [EK]
VR3-B	EV-733548J	R S-FIX H RH063EC14R015 103 [EOH-N/DN/DNV]

12. POWER SUPPLY P.C. BOARD

Ref. No.	Part No.	Description
C1	EC-416953J	C EC V CUT YK 222M 50.0DC
C4	EC-416655J	C DBL.LAYER T05 FM0H473Z 5.5DC
D1	*ED-394708J	D SILICON RBA402 200/4.0A
D2	*ED-412107J	D SILICON 1N4003 T26 200/1.0A
D3	*ED-412107J	D SILICON 1N4003 T26 200/1.0A
D5	*ED-408910J	D ZENER H HZS16-3
D6	*ED-400171J	D ZENER H HZS6C2L
D7	*ED-391002J	D ZENER H HZS7C3
D8	*ED-408807J	D ZENER H HZS12C3
D9	ED-307572	D SILICON H 1SS131
D10	ED-307572	D SILICON H 1SS131
D11	*ED-412008J	D ZENER H HZS33-1L T26
F1	*EF-415062J	FUSE S506 T 250V 3.15A
F2	*EF-416663J	FUSE S504 T 250V 125MA
F3	*EF-416663J	FUSE S504 T 250V 125MA
IC1	*EI-416652J	IC STK7576-S
IC2	EI-416594J	IC XC61AC4202TH T05
IC3	EI-416778J	IC NJM4558LA
L1	EI-416584J	COIL FIX 2 TC-1181-46 281UH
L2	EI-416583J	COIL FIX 2 TC-1182-46 281UH
L3	EH-388140J	FILTER EMI BL02RN1-R62
L4	EH-388140J	FILTER EMI BL02RN1-R62
L5	*EO-416686J	COIL LF LF-4D-102 102UH [EOG,P-EOG]
L6	*EO-416587J	COIL LF UF1922SG-181Y1R2-01 [EOG,P-EOG]
R4	ER-405439J	R OMF H S15 FS 1W R33J
R8	ER-336756	R OMF H FS 1W R47J
TH1	*EX-412521J	THERMISTOR 911P83E101NH07 T05
TR1	ET-416600J	TR DTC144VS T05
TR2	ET-416600J	TR DTC144VS T05
TR3	ET-397160J	TR 2SC3330 R,S,T,U,V
TR4	ET-416588J	TR 2SD2166 Q,R,S
TR5	ET-416601J	TR 2SD1960 T05
TR6	ET-397160J	TR 2SC3330 R,S,T,U,V
TR7	ET-416588J	TR 2SD2166 Q,R,S
TR8	ET-416589J	TR 2SB1375

13. INLET P.C. BOARD

Ref. No.	Part No.	Description
P1	*EJ-416590J1	SOCKET INLET CCT-2302-0371 2P [AC INLET]

14. D-NICAM P.C. BOARD (EK,EOH-N/DN/DNV)

Ref. No.	Part No.	Description
D1	ED-307572	D SILICON H 1SS131
D2	ED-307572	D SILICON H 1SS131
D5	ED-624903	D SILICON H 1S2473
FL1	EH-373918	FILTER CE TPS5.5MB [EOH-DN/DNV]
FL101	EH-394947J	FILTER CE SFT5.74MA [EOH-DN/DNV]
FL103	EH-394948J	FILTER CE SFT5.5MA [EOH-DN/DNV]
IC1	EI-416514J	IC CF70091A
IC2	EI-416609J	IC TDA1305T
IC3	EI-393325J	IC M5218AP
IC4	EI-310036	IC TC4066BP
IC5	EI-393325J	IC M5218AP
IC101	EI-389644J	IC BA403 [EOH-DN/DNV]
IC102	EI-389644J	IC BA403 [EOH-DN/DNV]
IC103	EI-416611J	IC TDA8417 [EOH-DN/DNV]
L1	EO-345881	COIL FIX 1 EL0606SKI 101J
L2	EO-345881	COIL FIX 1 EL0606SKI 101J
L3	EO-345878	COIL FIX 1 EL0606SKI 680J
L4	EO-381189J	COIL FIX 1 EL0405SKI 100K
L5	EO-345881	COIL FIX 1 EL0606SKI 101J
L6	EO-345881	COIL FIX 1 EL0606SKI 101J
L101	EO-381189J	COIL FIX 1 EL0405SKI 100K [EOH-DN/DNV]
L103	EO-381189J	COIL FIX 1 EL0405SKI 100K [EOH-DN/DNV]
L105	EO-381189J	COIL FIX 1 EL0405SKI 100K [EOH-DN/DNV]
TR1	ET-397160J	TR 2SC3330 R,S,T,U,V [EOH-DN/DNV]
TR2	ET-397160J	TR 2SC3330 R,S,T,U,V
TR3	ET-369075	TR FET 2SJ107 GR,BL
TR4	ET-370310	TR DTC144TS
TR5	ET-370310	TR DTC144TS
TR6	ET-370310	TR DTC144TS
TR7	ET-370310	TR DTC144TS
TR8	ET-370310	TR DTC144TS
TR11	ET-354414	TR DTC144ES
TR101	ET-397160J	TR 2SC3330 R,S,T,U,V [EOH-DN/DNV]
TR102	ET-397160J	TR 2SC3330 R,S,T,U,V [EOH-DN/DNV]
VL101	EO-416928J	COIL TUN 1 V1173-035 5.74 [EOH-DN/DNV]
VL102	EO-416926J	COIL TUN 1 V1173-033 5.5 [EOH-DN/DNV]
VR101	EV-394962J	R S-FIX H T05EVNDXAA03 0.1W102 [EOH-DN/DNV]
X1	EI-416616J	OSC X'TAL HC-49/U 16384KHZ
X101	EI-416791J	OSC X'TAL 4322-143-05571 10MHZ [EOH-DN/DNV]

15. D-MULTI P.C. BOARD (EA,EO,EOH-D,EOG,P-EOG)

Ref. No.	Part No.	Description
FL1	EH-394947J	FILTER CE SFT5.74MA
FL3	EH-394948J	FILTER CE SFT5.5MA
IC1	EI-389644J	IC BA403
IC2	EI-389644J	IC BA403
IC3	EI-416611J	IC TDA8417
L1	EO-345865	COIL FIX 1 EL0606SKI 100J
L3	EO-345865	COIL FIX 1 EL0606SKI 100J
L5	EO-345865	COIL FIX 1 EL0606SKI 100J
TR1	ET-397160J	TR 2SC3330 R,S,T,U,V
TR2	ET-397160J	TR 2SC3330 R,S,T,U,V
TR3	ET-397160J	TR 2SC3330 R,S,T,U,V
TR4	ET-397160J	TR 2SC3330 R,S,T,U,V
VL1	EO-416928J	COIL TUN 1 V1173-035 5.74
VL2	EO-416926J	COIL TUN 1 V1173-033 5.5
VR1	EV-394962J	R S-FIX H T05EVNDXAA03 0.1W102
X1	EI-416791J	OSC X'TAL 4322-143-05571 10MHZ

16. IN-OUT (A) P.C.BOARD

Ref. No.	Part No.	Description
IC1	EI-408961J	IC MM1031XS
IC2	EI-416646J	IC MM1113XS
IC3	EI-332259	IC TC4052BP
IC4	EI-408961J	IC MM1031XS [EOH-DN (Y2)]
IC5	EI-416647J	IC MM1111XS [EOH-DN (Y2)]
IC6	EI-310036	IC TC4066BP [EOH-DN (Y2)]
L1	EO-345880	COIL FIX 1 EL0606SKI 820J
L2	EO-345880	COIL FIX 1 EL0606SKI 820J
TR3	ET-354414	TR DTC144ES [EOH-DN (Y2)]
TR4	ET-354414	TR DTC144ES
TR5	ET-354414	TR DTC144ES
TR6	ET-354414	TR DTC144ES [EXCEPT EA]
TR7	ET-354415	TR DTA144ES [EXCEPT EA]

17. IN-OUT (B) P.C. BOARD

Ref. No.	Part No.	Description
D101	ED-307572	D SILICON H 1SS131
D102	ED-401099J	D SCHOTTKY MA719 T26 40/0.5A [EOH-DN (Y2)]
D103	ED-307572	D SILICON H 1SS131
PJ101	EJ-389864J	SOCKET M1817 21P [EXCEPT EA]
PJ102	EJ-389915J	SOCKET M1817-A 21P [EOH-DN (Y2)]
PJ103	EJ-389914J	PIN J YKB11-0177 YELLOW 1P
PJ104	EJ-389980J	PIN J YKB11-0176 WHITE 1P
PJ105	EJ-389979J	PIN J YKB11-0175 RED 1P
PJ107	EJ-389325J	PIN J YKB11-0179 1P WHITE
PJ108	EJ-389324J	PIN J YKB11-0178 1P RED
TR101	ET-397160J	TR 2SC3330 R,S,T,U,V [EXCEPT EA]
TR102	ET-397160J	TR 2SC3330 R,S,T,U,V [EXCEPT EA]
TR103	ET-397160J	TR 2SC3330 R,S,T,U,V [EOH-DN (Y2)]
TR104	ET-397160J	TR 2SC3330 R,S,T,U,V [EOH-DN (Y2)]
TR105	ET-397160J	TR 2SC3330 R,S,T,U,V
TR106	ET-397160J	TR 2SC3330 R,S,T,U,V
1-A	SP-416266J	PANEL REAR (2) E [EXCEPT EA,EOG,P-EOG,EOH-DN (Y2)]
1-B	SP-416265J	PANEL REAR (1) E [EA]
1-C	SP-417253J	PANEL REAR (2) G [EOG,P-EOG]
1-D	SP-417684J	PANEL REAR (3) E2 [EOH-DN (Y2)]

18. CONTROL P.C. BOARD (EOH-DN (Y2))

Ref. No.	Part No.	Description
L101	EO-345880	COIL FIX 1 EL0606SKI 820J
TR204	ET-354415	TR DTA144ES
TR205	ET-354414	TR DTC144ES
TR207	ET-370310	TR DTC144TS

19. VPS P.C. BOARD (EOG,P-EOG)

Ref. No.	Part No.	Description
D1	ED-307572	D SILICON H 1SS131
IB401	EH-386637J	COMP R RGLE8X 103J
IC301	EI-385958J	IC SAA4700
IC401	EI-408430J1	IC UPD75004CU-148 JXVPS2
L1	EO-345865	COIL FIX 1 EL0606SKI 100J
L301	EO-345865	COIL FIX 1 EL0606SKI 100J
L401	EO-345865	COIL FIX 1 EL0606SKI 100J
TR1	ET-397160J	TR 2SC3330 R,S,T,U,V
TR2	ET-388338J	TR 2SB1425 S,E
TR3	ET-354414	TR DTC144ES
TR5	ET-375983	TR DTA124TS
X401	EI-367882J1	OSC CE FCR4.19MC3 4.190MHZ

20. PDC P.C. BOARD (EOH-DNV)

Ref. No.	Part No.	Description
D1	ED-307572	D SILICON H 1SS131
IB401	EH-386637J	COMP R RGLE8X 103J
IC401	EI-416783J	IC UPD75004CU-190 QXBSD1
IC501	EI-419099J	IC MV1820E/DP
L251	EO-345865	COIL FIX 1 EL0606SKI 100J
L401	EO-345865	COIL FIX 1 EL0606SKI 100J
L501	EO-345865	COIL FIX 1 EL0606SKI 100J
TR2	ET-388338J	TR 2SB1425 S,E
TR3	ET-354414	TR DTC144ES
TR5	ET-375983	TR DTA124TS
TR251	ET-397160J	TR 2SC3330 R,S,T,U,V
TR252	ET-353899	TR 2SA1317 S,T,U
TR253	ET-353899	TR 2SA1317 S,T,U
X401	EI-367882J1	OSC CE FCR4.19MC3 4.190MHZ
X501	EI-419093J	OSC X'TAL HC-43/U PDC 27750KHZ

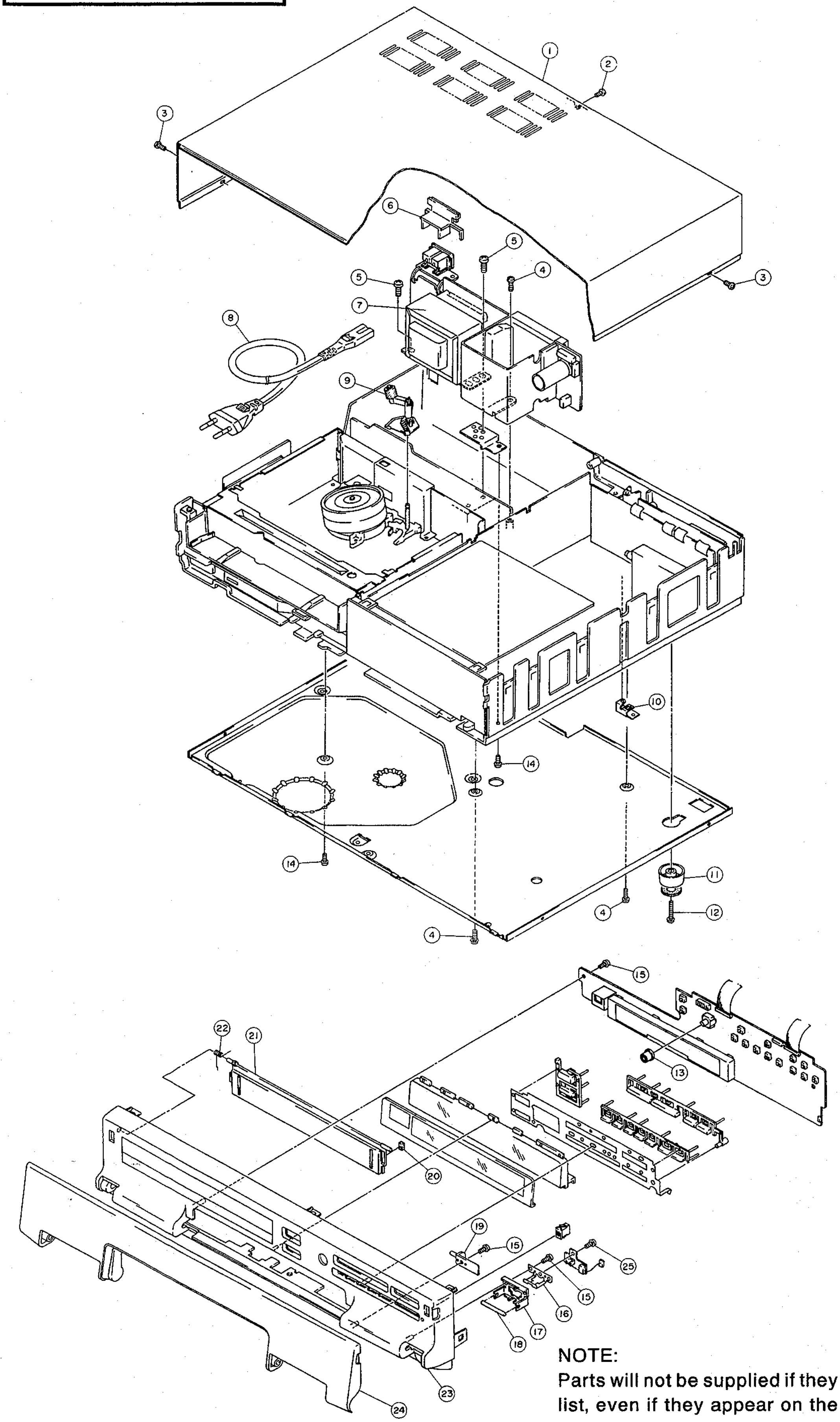
21. FINAL ASSEMBLY BLOCK

Ref. No.	Part No.	Description
1	SP-416142J	COVER UPPER
2	ZS-391046J	PLX BID26X10STL BNI
3	ZS-385611J	DT BID26X06STL BNI
4	ZS-362378	PLX BID30X10STL CMT
5	ZS-373962	PLX BID40X10STL CMT
6	SC-416262J	COVER INLET
7-A	*BT-416603J	TRANS POW V1172 EK [EA,EK]
7-B	*BT-416602J	TRANS POW V1172 EO [EXCEPT EA,EK]
8-A	*EW-412523J	AC CORD200S KP561KS15F B S [EA]
8-B	*EW-412524J	AC CORD200S KP610KS15F B B [EK]
8-C	*EW-412522J	AC CORD200S KP419CKS15F B V [EXCEPT EA,EK]
9	HZ-408193J	ROLLER HEAD CLEANER
10	ZG-387354J	PLATE EARTH (2)
11	SA-404140J	FOOT KX
12	ZS-388079J	PLX BID30X14STL CMT
13	SK-416140J	KNOB LEVEL
14	ZS-358936	ST BID30X06STL CMT
15	ZS-389965J	PLX BID26X08STL BNI
16	ZS-416449J1	SP PLATE DOOR QIX
17	MZ-416447J	HOLDER DOOR (S)
18	MS-416448J	PROP DOOR (S)
19	MZ-416450J	HOLDER DOOR (M) PART
20	SZ-407193J	CUSHION MASK (2)
21	SE-416443J	MASK CASSETTE QH (E)
22	ZG-387370J	SP MASK
23-A	BD-417388J	PANEL FRONT (F1) E2 PART [G64EK]
23-B	BD-417342J	PANEL FRONT (F1) G PART [EOG]
23-C	BD-418218J	PANEL FRONT (F1) G2 PART [P-EOG]
23-D	BD-416433J	PANEL FRONT (F1) E PART [EXCEPT G64EK,EOG,P-EOG]
24-A	BD-416444J1	DOOR VS-G60 (E) PART [EA,EO,EOH-D]
24-B	BD-417356J1	DOOR VS-G60 (E2) PART [G60EK,EOH-N]
24-C	BD-417359J1	DOOR VS-G64 (E2) PART [G64EK]
24-D	BD-417362J1	DOOR VS-G65 (G) PART [EOG]
24-E	BD-417717J	DOOR VS-G64SV (E) PART [EOH-DNV]
24-F	BD-417358J1	DOOR VS-G64 (E) PART [EOH-DN]
24-G	BD-418220J1	DOOR VS-G65P (G) PART [P-EOG]
25	ZS-379364	DT BID26X06STL CMT

22. ACCASSARY

Ref. No.	Part No.	Description
1	EW-348414	CORD PAL
2-A	AV-B1050A010E	REMOCON BLK RC-W602G [EOG]
2-B	AV-B1065A010C	REMOCON BLK RC-W612E [G64EK]
2-C	AV-B1071A010E	REMOCON BLK RC-W612G [P-EOG]
2-D	AV-B1071A010D	REMOCON BLK RC-W622E [EOH-DNV]
2-E	AV-416974M	REMOCON RC-W600E [EXCEPT EOG,G64EK,P-EOG,EOH-DNV]

FINAL ASSEMBLY BLOCK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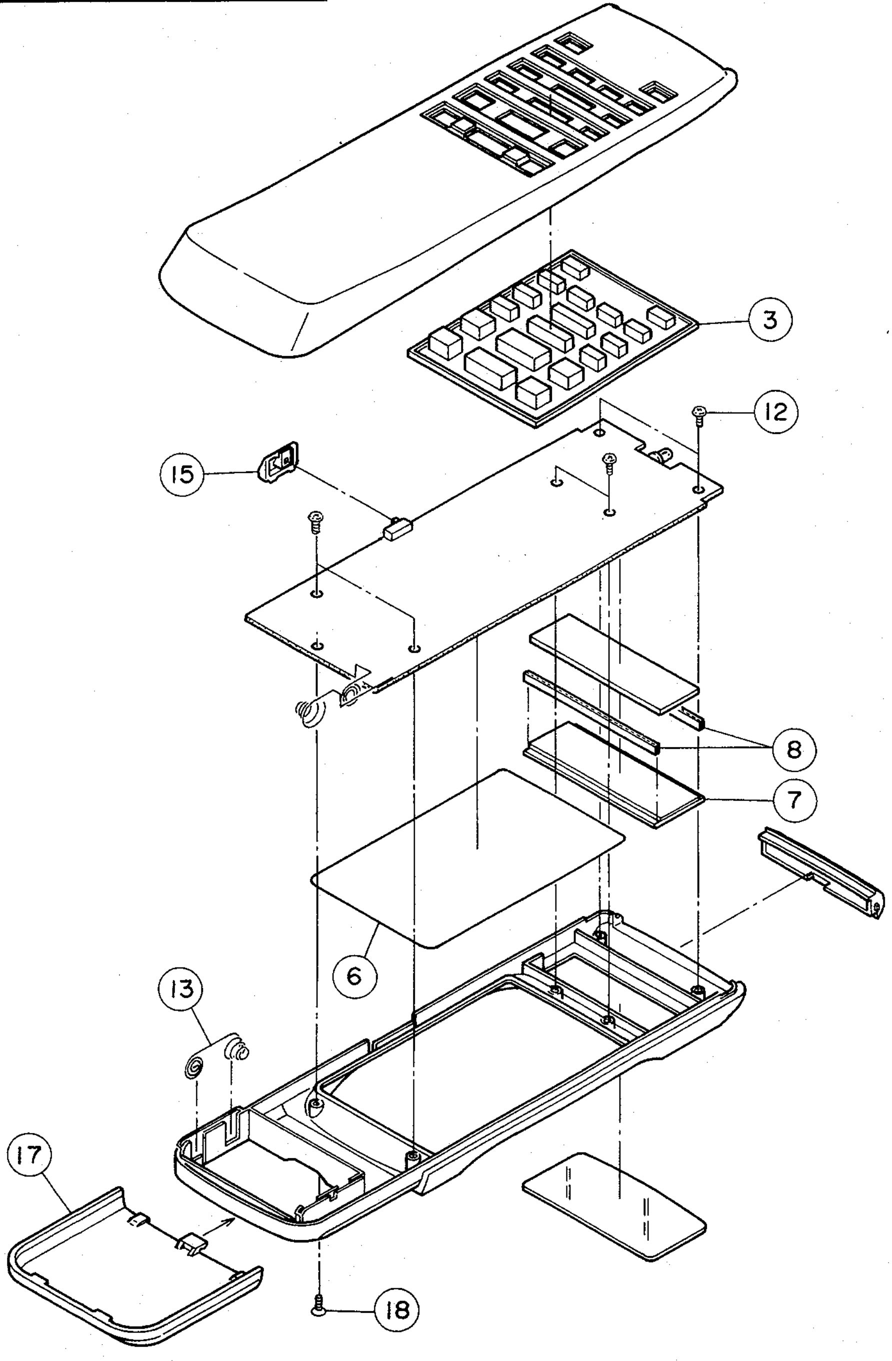
NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

REMOCON RC-W602G, W612E/G, W622E



23. REMOCON RC-W602G,W612E/G,W622E

Ref. No.	Part No.	Description
3	MB-414326J	KEY RUBBER
6-A	EZ-415491J	IND NAME PLATE (3)-G [W602G]
6-B	EZ-417487J1	IND NAME PLATE (13)-E [W612E]
6-C	EZ-417288J	IND NAME PLATE (13)-G [W612G]
6-D	EZ-418326J	IND NAME PLATE (13)-SVE [W622E]
7	EM-408437J	IND LCD LD-B5444A ENGLISH
8	EJ-412291J	TERMINAL LCD (6) B1043
12	ZS-414462J	PT BID20X05STL BNI
13	ZG-414335J	TERMINAL BATTERY (B3)
15	SK-414322J	SLIDE KNOB
17	SC-414324J	COVER BATTERY
18	ZS-415396J	PT CTS20X08STL CMT

24. REMOCON P.C BOARD RC-W602,W612,W622

Ref. No.	Part No.	Description
D1	ED-416503J	D LED SID1010CXM LF51 INFRARED
IC1-A	EI-412300J	IC M50933-131FP QXDLCD1 [W602G]
IC1-B	EI-419100J	IC M38203M4-059FP QXUKGW2 [W612E]
IC1-C	EI-419101J	IC M38203M4-060FP QXFRGW2 [W612G,W622E]
IC2	EI-400672J	IC S-8052ALB-LE
SW1	ES-414811J	SW SLIDE CHIP SSSS21 01-02N
SW2	ES-394558J	SW TACT SKHRAA
TR1	ET-413009J	TR CHIP 2SC2884-Y TE12R T12E
X1	EI-368825M	OSC X'TAL C-002RX 32.768KHZ
X2	EI-403451J	OSC CE CSB1200J 1.200MHZ
1	ZG-415292J	TERMINAL BATTERY (B1)
2	ZG-415294J	TERMINAL BATTERY (B2)

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EO345880	7-L706	EO416926J	15-VL2	ET354414	6-TR235	ET373985	7-TR606
EO345880	16-L1	EO416928J	14-VL101	ET354414	6-TR242	ET375983	6-TR24
EO345880	16-L2	EO416928J	15-VL1	ET354414	6-TR243	ET375983	6-TR110
EO345880	18-L101	EO418430J	8-FL101	ET354414	6-TR410	ET375983	19-TR5
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EO345881	6-L351	EO714614	11-L7	ET354414	7-TR601	ET382952J	6-TR6
EO345881	7-L601	EO725824J	11-L1	ET354414	7-TR602	ET388338J	6-TR225
EO345881	7-L701	EO725825J	11-L2	ET354414	7-TR603	ET388338J	19-TR2
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EO345881	14-L2	ER353877	7-R602	ET354414	8-TR23	ET396072J	6-TR407
EO345881	14-L5	ER378514J	9-IB8	ET354414	8-TR101	ET396488J	9-TR1
EO345881	14-L6	ER400729J	7-FR601	ET354414	14-TR11	ET397160J	6-TR2
EO351862	6-L4	ER401039J	6-FR401	ET354414	16-TR3	ET397160J	6-TR5
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EO351862	6-L300	ER405439J	12-R4	ET354414	16-TR5	ET397160J	6-TR13
EO351862	8-L6	ER410380J	6-FR1	ET354414	16-TR6	ET397160J	6-TR14
EO351866	6-L217	ES349474	9-SW1	ET354414	18-TR205	ET397160J	6-TR21
EO351866	6-L223	ES349474	9-SW2	ET354414	19-TR3	ET397160J	6-TR22
EO351866	7-L704	ES349474	9-SW3	ET354414	20-TR3	ET397160J	6-TR108
EO351866	7-L705	ES349474	9-SW4	ET354415	6-TR209	ET397160J	6-TR202
EO351869	6-L2	ES349474	9-SW5	ET354415	6-TR223	ET397160J	6-TR206
EO351869	8-L7	ES349474	9-SW6	ET354415	6-TR236	ET397160J	6-TR207
EO353900	6-L224	ES349474	9-SW7	ET354415	6-TR411	ET397160J	6-TR208
EO353900	8-L12	ES349474	9-SW8	ET354415	8-TR25	ET397160J	6-TR212
EO353901	8-L10	ES349474	9-SW9	ET354415	16-TR7	ET397160J	6-TR213

Part No.	Ref. No.
ET397160J	6-TR214
ET397160J	6-TR218
ET397160J	6-TR238
ET397160J	6-TR239
ET397160J	6-TR240
ET397160J	6-TR351
ET397160J	6-TR352
ET397160J	6-TR403
ET397160J	6-TR404
ET397160J	6-TR414
ET397160J	7-TR705
ET397160J	7-TR707
ET397160J	8-TR1
ET397160J	8-TR8
ET397160J	8-TR9
ET397160J	8-TR10
ET397160J	8-TR15
ET397160J	8-TR16
ET397160J	8-TR17
ET397160J	8-TR103
ET397160J	12-TR3
ET397160J	12-TR6
ET397160J	14-TR1
ET397160J	14-TR2
ET397160J	14-TR101
ET397160J	14-TR102
ET397160J	15-TR1
ET397160J	15-TR2
ET397160J	15-TR3
ET397160J	15-TR4
ET397160J	17-TR101
ET397160J	17-TR102
ET397160J	17-TR103
ET397160J	17-TR104
ET397160J	17-TR105
ET397160J	17-TR106
ET397160J	19-TR1
ET397160J	20-TR251
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ET404498J	6-TR101
ET404498J	6-TR104
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ET408826J	9-TR3
ET408826J	9-TR4
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ET414816J	6-TR9
ET416588J	12-TR4
ET416588J	12-TR7
ET416589J	12-TR8
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ET416622J	6-TR107
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ET713614	11-Q5
ET713614	11-Q8
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EV389476J	6-VR403
EV389476J	6-VR405
EV389476J	6-VR408
EV389476J	6-VR410
EV389478J	6-VR406
EV389482J	6-VR203
EV389489J	6-VR204
EV394962J	14-VR101
EV394962J	15-VR1
EV397066J	6-VR201
EV397066J	6-VR409
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ML387349J2	3-56
ML387350J1	3-47
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MZV1102A100A	4-26
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MZ387332J	4-28
MZ387333J1	4-30
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MZ387445J	4-22
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SP416266J	17-1-A
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ZG387320J	3-3
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ZG387370J	21-22
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ZG387421J	3-50
ZG387438J1	3-11
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ZG387467J	3-7
ZG387468J	4-4
ZG387502J	4-38
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ZG392294J	3-61
ZG392831J	3-46
ZG395567J	3-42
ZG404846J	3-29
ZG414335J	23-13
ZG415292J	24-1
ZG415294J	24-2
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ZS321298	3-15
ZS336714	2-12
ZS336714	3-22
ZS358936	2-5
ZS358936	3-59
ZS358936	4-41
ZS358936	21-14
ZS362378	21-4
ZS365149	4-10
ZS373962	21-5
ZS374458	3-38
ZS379350	2-11
ZS379364	21-25
ZS385611J	21-3
ZS388079J	21-12
ZS389950J	4-40
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ZS391046J	21-2
ZS404844J	3-14
ZS409216J	2-14
ZS409216J	3-16
ZS410851J	3-12
ZS414462J	23-12
ZS415396J	23-18
ZS416449J1	21-16
ZS425981	4-36
ZS464703	3-28
ZS467796	2-9
ZS563444	2-7
ZW332843	3-30
ZW387492J	4-8
ZW389814J	3-8
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AKAI

MODEL VS-G60EA-D/EK-N/EO-D/EOH-D/EOH-N
MODEL VS-G64EK-N/EOH-DN/SV-EOH-DNV
MODEL VS-G65EOG-D/P-EOG-D

SCHEMATIC DIAGRAMS AND PC BOARDS

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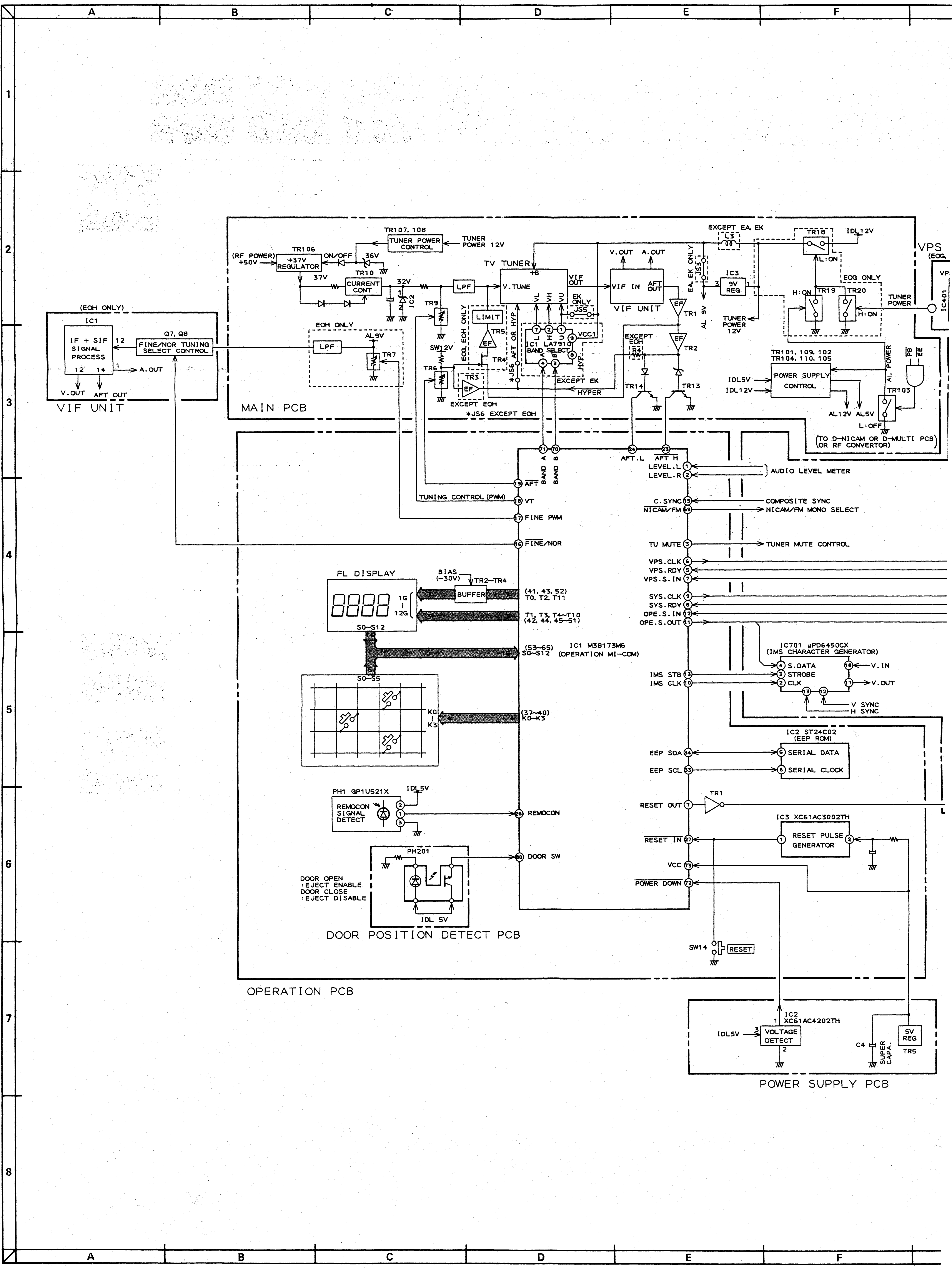
17. RC-W612E REMOTE CONTROL UNIT 39
18. RC-W612G/622E REMOTE CONTROL UNIT 40

III. INFORMATION OF ICs 41

Use these schematic diagrams and PC boards together with the provided service manual.

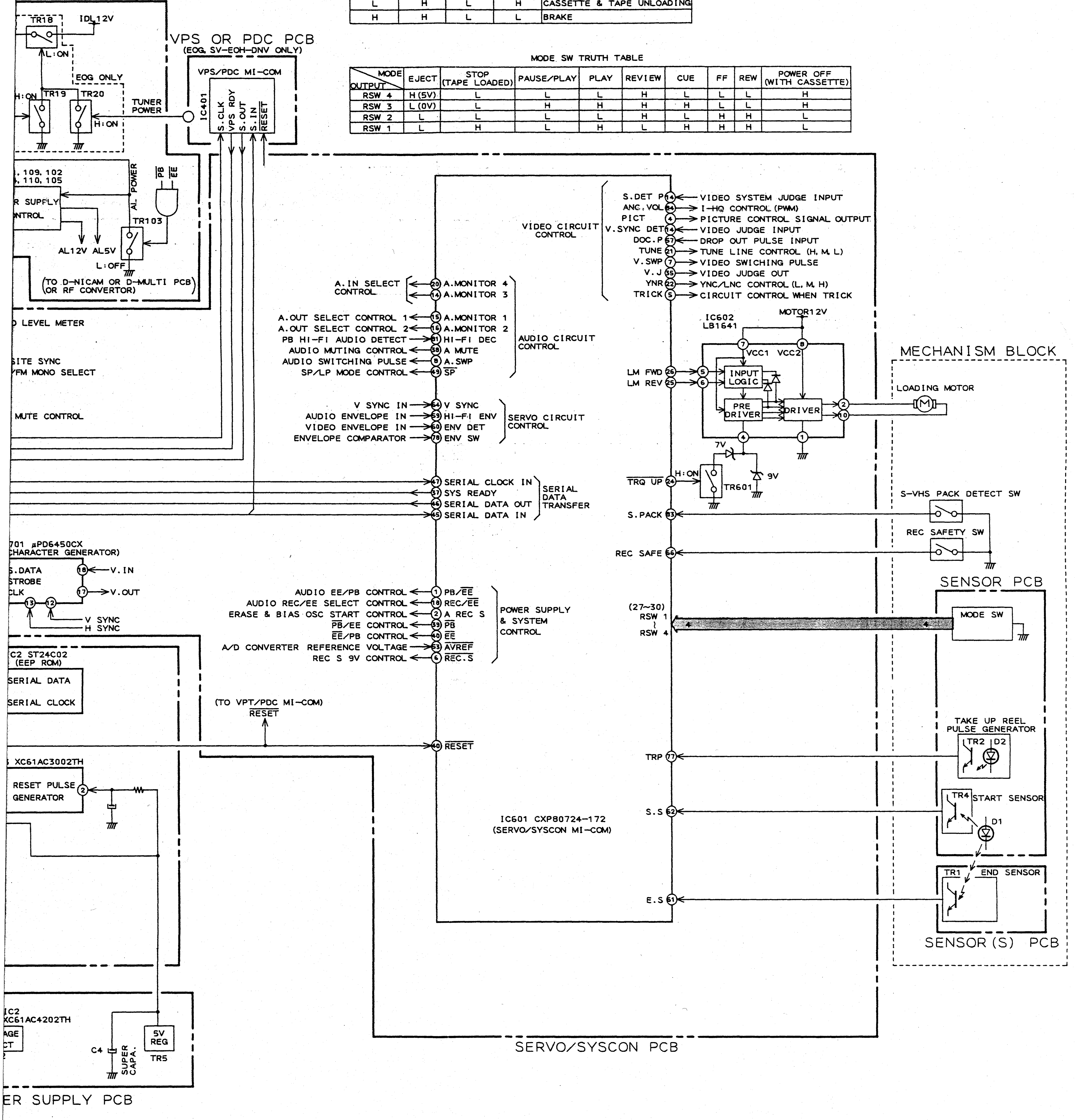

A
B
C
D
E
F
1
2
3
4
5
6
7
8
MAIN PCB
TR107, 108
TUNER POWER CONTROL
TUNER POWER 12V
TR106
(RF POWER) +50V
+37V REGULATOR
ON/OFF
36V
37V
TR10
CURRENT CONT
32V
IC2
LPF
TV TUNER
+B
V.TUNE
VL
VH
VU
VIF OUT
EK ONLY
JS5
V.OUT
A.OUT
VIF IN
AFT OUT
VIF UNIT
EXCEPT EA, EK
L3
EA, EK ONLY
JS3
IC3
9V REG
AL 9V
TUNER POWER 12V
TR18
IDL12V
L:ON
EOG ONLY
TR19
TR20
H:ON
H:ON
TUNER POWER
VPS
(EOG,
VP
IC401
TR9
LIMIT
TR5
EF
TR4
EOG, EOH ONLY
AFT OR HYP
*JS6
IC1 LA7910
BAND SELECT
L
H
U
VCC1
A
B
HYP
EXCEPT EK
HYPER
SW12V
TR6
TR3
EF
EXCEPT EOH
*JS6 EXCEPT EOH
EOH ONLY
LPF
AL9V
TR7
EF
TR1
EF
TR2
EXCEPT EOH
R4
TR14
TR13
TR101, 109, 102
TR104, 110, 105
POWER SUPPLY CONTROL
IDL5V
IDL12V
AL12V
AL5V
AL POWER
PB
EE
TR103
L:OFF
(TO D-NICAM OR D-MULTI PCB)
(OR RF CONVERTOR)
(EOH ONLY)
IC1
IF + SIF SIGNAL PROCESS
12
12
14
1
A.OUT
V.OUT
AFT OUT
Q7, Q8
FINE/NOR TUNING SELECT CONTROL
VIF UNIT
71
70
BAND A
BAND B
24
23
AFT.L
AFT H
LEVEL.L 1
LEVEL.R 2
AUDIO LEVEL METER
19 AFT
TUNING CONTROL (PWM)
18 VT
17 FINE PWM
16 FINE/NOR
C.SYNC 15
COMPOSITE SYNC
NICAM/FM 69
NICAM/FM MONO SELECT
TU MUTE 3
TUNER MUTE CONTROL
VPS.CLK 6
VPS.RDY 5
VPS.S.IN 7
SYS.CLK 9
SYS.RDY 8
OPE.S.IN 12
OPE.S.OUT 11
FL DISPLAY
8888
1G
12G
BIAS (−30V)
TR2~TR4
BUFFER
7
7
5
5
(41, 43, 52)
T0, T2, T11
T1, T3, T4~T10
(42, 44, 45~51)
S0~S12
16
16
6
S0~S5
(53~65)
S0~S12
IC1 M38173M6
(OPERATION MI-COM)
K0
K3
4
4
(37~40)
K0~K3
IC701 µPD6450CX
(IMS CHARACTER GENERATOR)
4 S.DATA
3 STROBE
2 CLK
18 V.IN
17 V.OUT
13
12
V SYNC
H SYNC
IMS STB 13
IMS CLK 10
IC2 ST24C02
(EEP ROM)
EEP SDA 34
EEP SCL 33
5 SERIAL DATA
6 SERIAL CLOCK
RESET OUT 7
TR1
L
PH1 GP1U521X
REMOCON SIGNAL DETECT
IDL5V
2
1
3
26 REMOCON
PH201
IDL 5V
30 DOOR SW
DOOR OPEN
:EJECT ENABLE
DOOR CLOSE
:EJECT DISABLE
DOOR POSITION DETECT PCB
IC3 XC61AC3002TH
RESET IN 27
1
RESET PULSE GENERATOR
2
VCC 73
POWER DOWN 72
SW14
RESET
OPERATION PCB
IC2
XC61AC4202TH
1
3
2
IDL5V
VOLTAGE DETECT
C4
SUPER CAPA.
5V REG
TR5
POWER SUPPLY PCB

(LOADING MOTOR DRIVE IC (LB1641) TRUTH TABLE)

INPUT		OUTPUT		MODE
IN1 ⑤	IN2 ⑥	OUT1 ②	OUT2 ⑩	
L	L	L	L	BRAKE
H	L	H	L	CASSETTE & TAPE LOADING
L	H	L	H	CASSETTE & TAPE UNLOADING
H	H	L	L	BRAKE

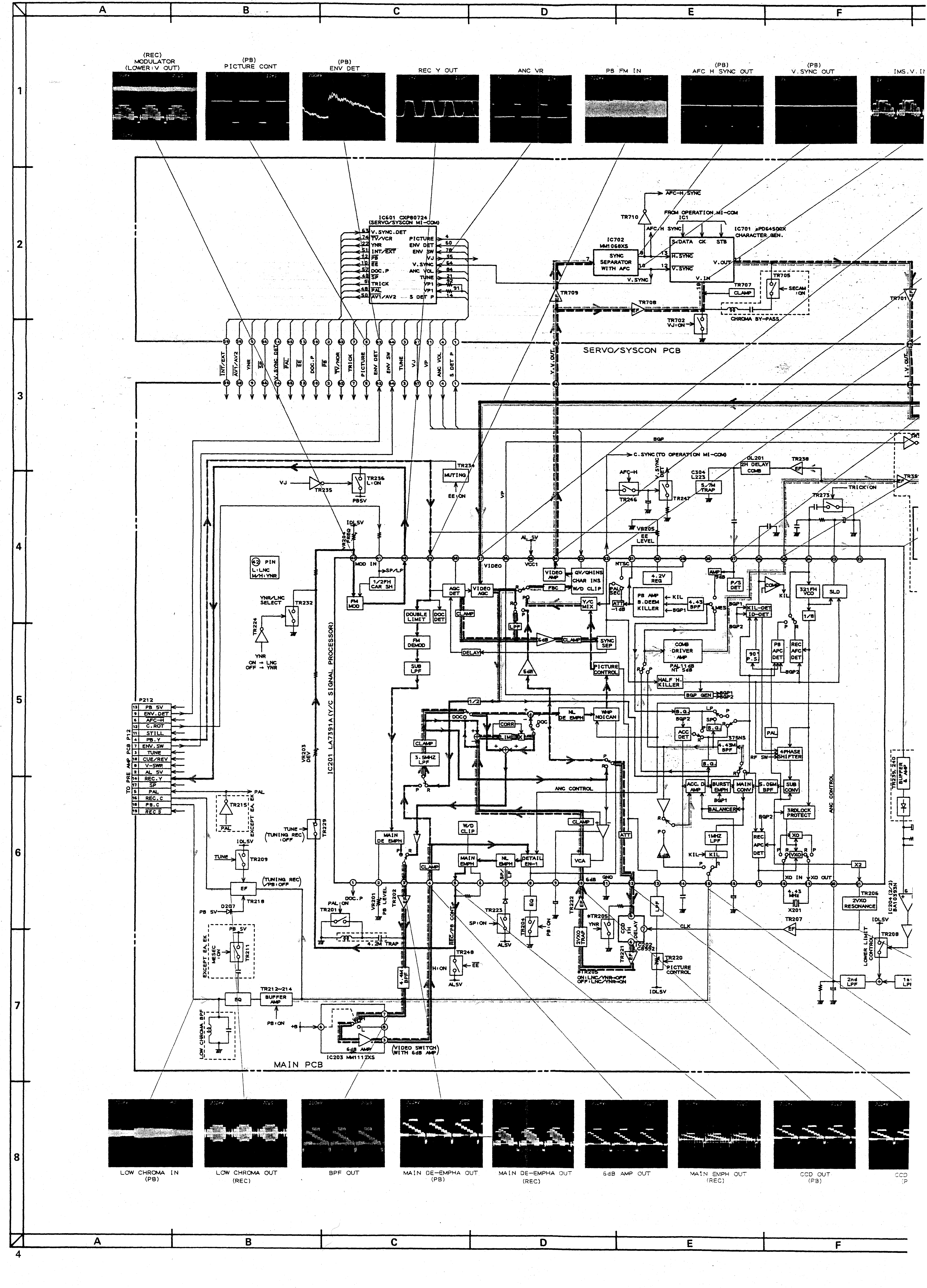
MODE SW TRUTH TABLE

MODE / OUTPUT	EJECT	STOP (TAPE LOADED)	PAUSE/PLAY	PLAY	REVIEW	CUE	FF	REW	POWER OFF (WITH CASSETTE)
RSW 4	H (5V)	L	L	L	H	L	L	L	H
RSW 3	L (0V)	L	H	H	H	H	L	L	H
RSW 2	L	L	L	L	H	L	H	H	L
RSW 1	L	H	L	H	L	H	H	H	L


F
G
H
I
J
K
1
2
3
4
5
6
7
8
TR18
IDL12V
L:ON
EOG ONLY
H:ON
TR19
TR20
H:ON
TUNER POWER
VPS OR PDC PCB
(EOG, SV-EOH-DNV ONLY)
VPS/PDC MI-COM
IC401
S.CLK
VPS RDY
S.OUT
S.IN
RESET
, 109, 102
, 110, 105
R SUPPLY
NTROL
AL POWER
PB
EE
TR103
AL12V
AL5V
L:OFF
(TO D-NICAM OR D-MULTI PCB)
(OR RF CONVERTOR)
LEVEL METER
ITE SYNC
/FM MONO SELECT
MUTE CONTROL
701 µPD6450CX
HARACTER GENERATOR)
S.DATA
STROBE
CLK
18
V.IN
17
V.OUT
13
12
V SYNC
H SYNC
C2 ST24C02
(EEP ROM)
SERIAL DATA
SERIAL CLOCK
(TO VPT/PDC MI-COM)
RESET
XC61AC3002TH
RESET PULSE GENERATOR
2
IC2
XC61AC4202TH
AGE
CT
C4
SUPER CAPA.
5V REG
TR5
ER SUPPLY PCB
VIDEO CIRCUIT CONTROL
S.DET P 14 VIDEO SYSTEM JUDGE INPUT
ANC.VOL 84 I-HQ CONTROL (PWM)
PICT 4 PICTURE CONTROL SIGNAL OUTPUT
V.SYNC DET 14 VIDEO JUDGE INPUT
DOC.P 57 DROP OUT PULSE INPUT
TUNE 21 TUNE LINE CONTROL (H, M, L)
V.SWP 7 VIDEO SWICHING PULSE
V.J 35 VIDEO JUDGE OUT
YNR 22 YNC/LNC CONTROL (L, M, H)
TRICK 5 CIRCUIT CONTROL WHEN TRICK
A.IN SELECT CONTROL
20 A.MONITOR 4
14 A.MONITOR 3
A.OUT SELECT CONTROL 1 15 A.MONITOR 1
A.OUT SELECT CONTROL 2 16 A.MONITOR 2
PB HI-FI AUDIO DETECT 81 HI-FI DEC
AUDIO MUTING CONTROL 38 A MUTE
AUDIO SWITCHING PULSE 8 A.SWP
SP/LP MODE CONTROL 49 SP
AUDIO CIRCUIT CONTROL
V SYNC IN 64 V SYNC
AUDIO ENVELOPE IN 59 HI-FI ENV
VIDEO ENVELOPE IN 60 ENV DET
ENVELOPE COMPARATOR 78 ENV SW
SERVO CIRCUIT CONTROL
47 SERIAL CLOCK IN
37 SYS READY
46 SERIAL DATA OUT
45 SERIAL DATA IN
SERIAL DATA TRANSFER
AUDIO EE/PB CONTROL 1 PB/EE
AUDIO REC/EE SELECT CONTROL 18 REC/EE
ERASE & BIAS OSC START CONTROL 2 A REC S
PB/EE CONTROL 39 PB
EE/PB CONTROL 40 EE
A/D CONVERTER REFERENCE VOLTAGE 53 AVREF
REC S 9V CONTROL 6 REC.S
POWER SUPPLY & SYSTEM CONTROL
40 RESET
IC601 CXP80724-172
(SERVO/SYSCON MI-COM)
IC602
LB1641
MOTOR12V
7
8
VCC1
VCC2
LM FWD 26
LM REV 25
5
6
INPUT LOGIC
PRE DRIVER
DRIVER
2
10
4
1
7V
9V
TRQ UP 24
H:ON
TR601
S.PACK 83
REC SAFE 66
(27~30)
RSW 1
RSW 4
4
TRP 77
S.S 62
E.S 61
SERVO/SYSCON PCB
MECHANISM BLOCK
LOADING MOTOR
M
S-VHS PACK DETECT SW
REC SAFETY SW
SENSOR PCB
MODE SW
TAKE UP REEL PULSE GENERATOR
TR2
D2
TR4
START SENSOR
D1
TR1
END SENSOR
SENSOR (S) PCB

VS-G60EA-D/EO-D/EK-N/EOH-D/EOH-N
VS-G64EOH-DN/EK-N/SV-EOH-DNV
VS-G65EOG-D/P-EOG-D
OPERATION & SYSCON
BLOCK DIAGRAM

NO.5-1 V117251M
A1



A
B
C
D
E
F
1
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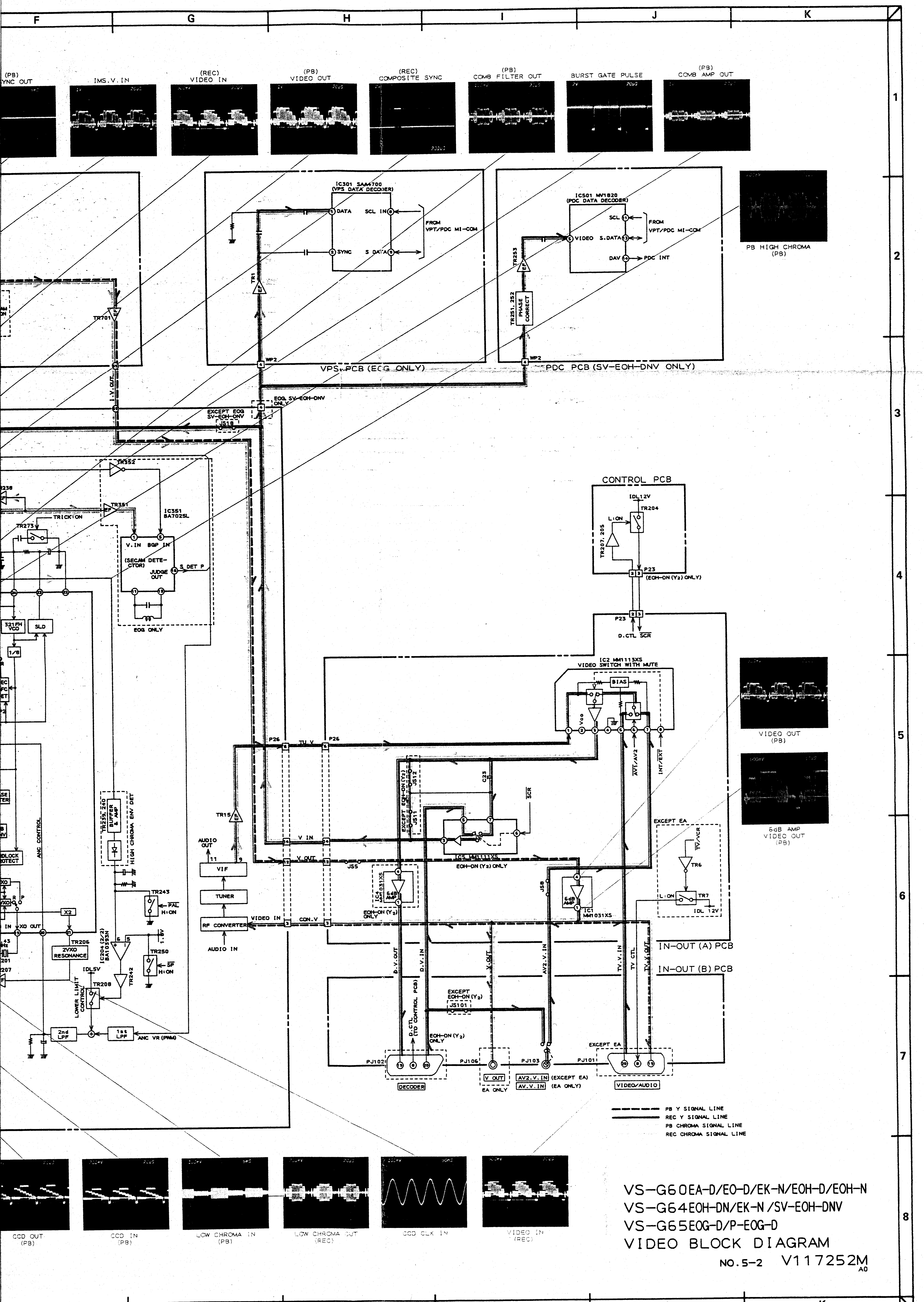
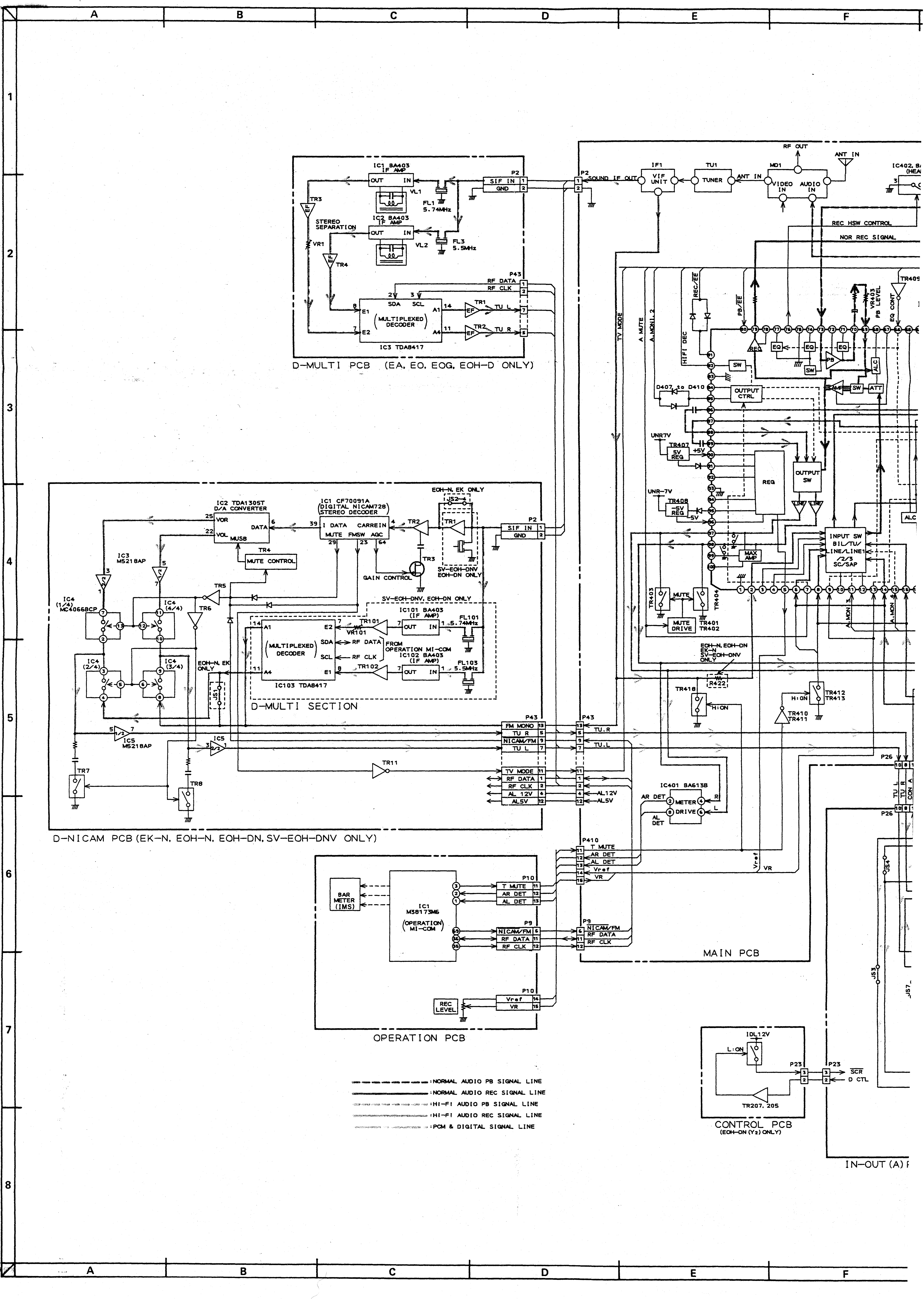
4
5
6
7
8
(REC) MODULATOR (LOWER: V OUT)
(PB) PICTURE CONT
(PB) ENV DET
REC Y OUT
ANC VR
PB FM IN
(PB) AFC H SYNC OUT
(PB) V.SYNC OUT
IMS.V.IN
IC601 CXP80724 (SERVO/SYSCON MI-COM)
V.SYNC.DET
TV/VCR
YNR
INT/EXT
PB
EE
DOC.P
SP
TRICK
PAL
AV1/AV2
PICTURE
ENV DET
ENV SW
VJ
V.SYNC
ANC VOL
TUNE
VP1
S DET P
IC702 MM1068XS
SYNC SEPARATOR WITH AFC
IC701 μPD6450CX CHARACTER GEN.
FROM OPERATION MI-COM
AFC-H SYNC
S-DATA
CK
STB
H.SYNC
V.SYNC
V.OUT
V.IN
TR710
TR709
TR708
TR707
TR705
TR702 VJ:ON
TR701
CLAMP
SECAM :ON
CHROMA BY-PASS
SERVO/SYSCON PCB
V.V.OUT
I.V.OUT
INT/EXT
AV1/AV2
YNR
SP
V.SYNC DET
PAL
EE
DOC.P
PB
TV/NOR
TRICK
PICTURE
ENV DET
ENV SW
TUNE
VJ
VP
ANC VOL
S DET P
TR234 MUTING
EE:ON
VJ
TR235
TR236 L:ON
PB5V
IDL5V
VR204 FREQ
C.SYNC (TO OPERATION MI-COM)
BGP
AFC-H
V.SYNC DET
TR246
TR247
C304 L223 5.7M TRAP
DL201 2H DELAY COMB
TR238
TR273
TRICK:ON
TR35
VR205 EE LEVEL
AL 5V
VCC1
42 PIN L:LNC M/H:YNR
YNR/LNC SELECT
TR232
TR224
YNR ON → LNC OFF → YNR
MOD IN
SP/LP
1/2FH CAR SH
FM MOD
AGC DET
VIDEO AGC
VIDEO
VIDEO AMP
FBC
QV/QHINS CHAR INS W/D CLIP
Y/C MIX
NTSC
PAL/SEC
ATT -1dB
4.2V REG
PB AMP B.DEEM KILLER
KIL
BGP1
4.43 BPF
MES
AMP 9dB
P/S DET
COMP
321FH VCO
SLD
KIL-DET
ID-DET
1/8
BGP2
DOUBLE LIMIT
DOC DET
CLAMP
FM DEMOD
SUB LPF
DELAY
LPF
6dB
CLAMP
SYNC SEP
PICTURE CONTROL
COMB DRIVER AMP
PAL 11dB NT 5dB
HALF H. KILLER
BGP GEN
90° P.S
PB APC DET
REC AFC DET
IC201 LA7391A (Y/C SIGNAL PROCESSOR)
VR203 DEV
1/2
DOC
CORR
LIM
NL DE EMPH
WHP NOICAN
B.G.
LP
SP
ACC DET
375NS
4.434 BPF
RF SW
PAL
4PHASE SHIFTER
CLAMP
3.5MHZ LPF
ANC CONTROL
ACC. D. AMP
BURST EMPH
MAIN CONV
5.06M BPF
SUB CONV
BALANCER
3RDLOCK PROTECT
TUNE → (TUNING REC :OFF)
TR229
MAIN DE EMPH
W/D CLIP
MAIN EMPH
NL EMPH
DETAIL EN-1
VCA
CLAMP
ATT
1MHZ LPF
KIL
REC APC DET
XO
VXO
X2
XO IN
XO OUT
4.43 MHz X201
TR206 2VXO RESONANCE
TR207
IDL5V
TR208
LOWER LIMIT CONTROL
IC204 (2/2) BA10393N
TR250 240 BUFFER & AMP
DOC.P
VR201 PB LEVEL
TR202
TR201
PAL:ON
4.2M TRAP
SP:ON
TR223
AL5V
TR204
PB:ON
EQ
TR222
TR205
YNR
2VXO TRAP
CCD 1H DELAY
IC202 LC8992
TR221
TR220 PICTURE CONTROL
CLK
IDL5V
*TR205 ON:LNC/YNR-OFF OFF:LNC/YNR-ON
REC/PB CONT
TR248
H:ON
EE
AL5V
4.4M BPF
2nd LPF
1st LPF
P212
PB 5V
ENV. DET
AFC-H
C.ROT
STILL
PB.Y
ENV.SW
TUNE
CUE/REV
V-SWP.
AL 5V
REC.Y
SP
PAL
REC.C
PB.C
REC S
TO PRE AMP PCB P12
TR215
PAL
EXCEPT EA, EK
TUNE
IDL5V
TR209
(TUNING REC) (PB:OFF)
EF
TR218
D207
PB 5V
EXCEPT EA, EK MESEC :ON
TR211
EQ
TR212-214 BUFFER AMP
PB:ON
LOW CHROMA BPF
IC203 MM1112XS
6dB AMP
(VIDEO SWITCH WITH 6dB AMP)
MAIN PCB
LOW CHROMA IN (PB)
LOW CHROMA OUT (REC)
BPF OUT
MAIN DE-EMPHA OUT (PB)
MAIN DE-EMPHA OUT (REC)
6dB AMP OUT
MAIN EMPH OUT (REC)
CCD OUT (PB)
CCD

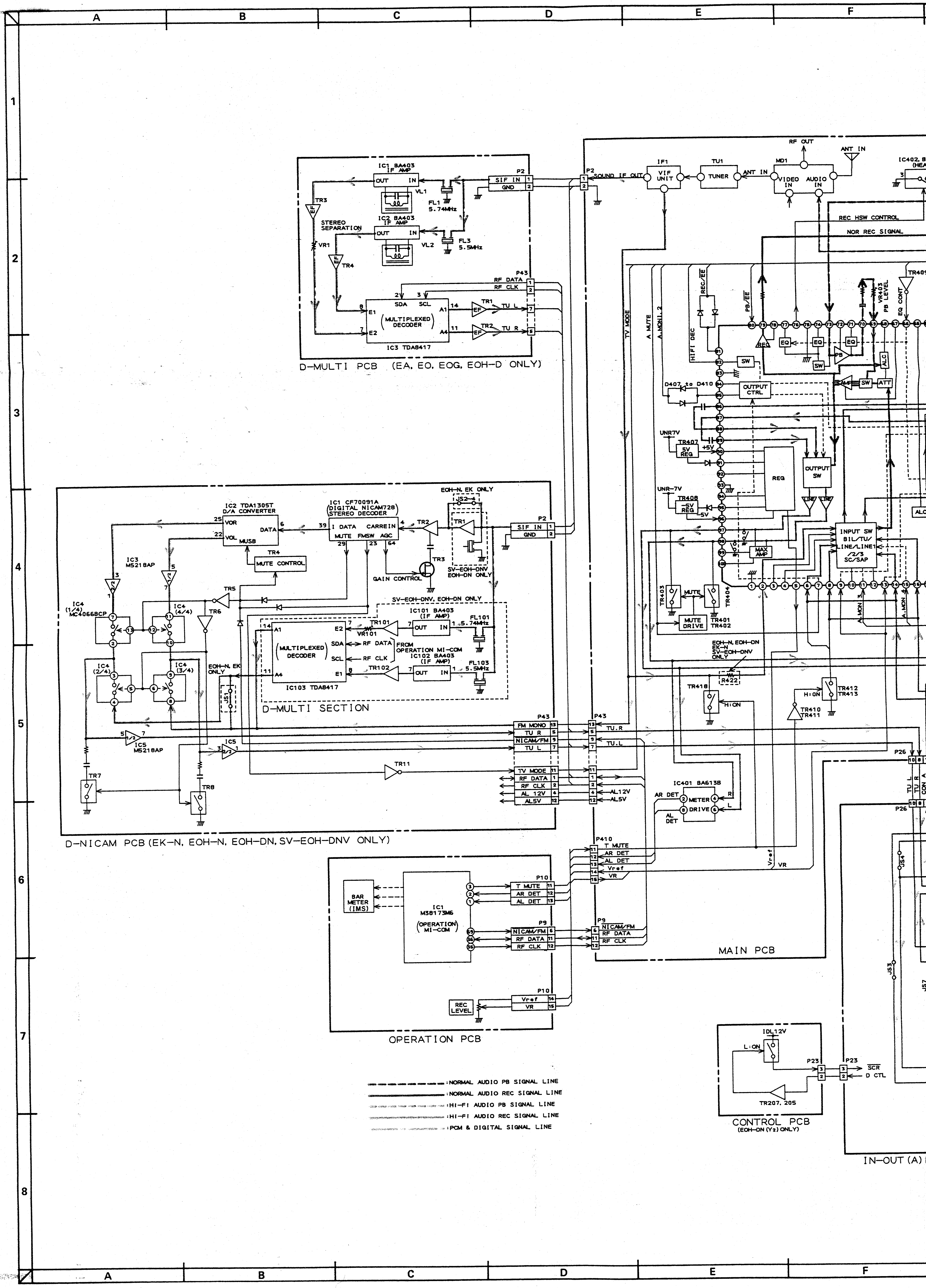

F
G
H
I
J
K
1
2
3
4
5
6
7
8
(PB)
YNC OUT
IMS.V.IN
(REC)
VIDEO IN
(PB)
VIDEO OUT
(REC)
COMPOSITE SYNC
(PB)
COMB FILTER OUT
BURST GATE PULSE
(PB)
COMB AMP OUT
IC301 SAA4700
(VPS DATA DECODER)
DATA
SYNC
SCL IN
S DATA
FROM
VPT/PDC MI-COM
TR1
WP2
VPS PCB (EOG ONLY)
IC501 MV1820
(PDC DATA DECODER)
SCL
VIDEO
S.DATA
DAV
PDC INT
FROM
VPT/PDC MI-COM
TR253
TR251, 252
PHASE CORRECT
WP2
PDC PCB (SV-EOH-DNV ONLY)
PB HIGH CHROMA
(PB)
TR701
I.V.OUT
EOG SV-EOH-DNV ONLY
EXCEPT EOG
SV-EOH-DNV
JS18
TR352
TR351
TR238
TRICK:ON
TR273
IC351
BA7025L
V.IN
BGP IN
(SECAM DETECTOR)
JUDGE OUT
S DET P
EOG ONLY
321FH VCO
SLD
1/8
CONTROL PCB
IDL12V
TR204
L:ON
TR207, 205
P23
(EOH-DN (Y2) ONLY)
P23
D.CTL
SCR
IC2 MM1113XS
VIDEO SWITCH WITH MUTE
BIAS
Voo
AV1/AV2
INT/EXT
VIDEO OUT
(PB)
6dB AMP
VIDEO OUT
(PB)
ANC CONTROL
TR239, 240
BUFFER & AMP
HIGH CHROMA ENV DET
TR243
PAL
H:ON
X2
IN
XO OUT
R
P
TR206
2VXO RESONANCE
IC204 (2/2)
BA10393N
1.8V
TR250
SP
H:ON
IDL5V
TR242
TR208
LOWER LIMIT CONTROL
2nd LPF
1st LPF
ANC VR (PWM)
P26
TU V
P26
C23
SCR
EXCEPT EOH-DN (Y2)
JS12
JS11
TR15
AUDIO OUT
11
9
VIF
TUNER
RF CONVERTER
AUDIO IN
VIDEO IN
V IN
V OUT
JS5
CON.V
IC5 MM1111XS
EOH-DN (Y2) ONLY
IC4 MM1031XS
6dB AMP
EOH-DN (Y2) ONLY
JS8
6dB AMP
IC1 MM1031XS
EXCEPT EA
TV/VCR
TR6
L:ON
TR7
IDL 12V
IN-OUT (A) PCB
IN-OUT (B) PCB
D.V.OUT
D.V.IN
V.OUT
AV2.V.IN
TV.V.IN
TV CTL
TV.V.OUT
D.CTL
(TO CONTROL PCB)
EOH-DN (Y2) ONLY
EXCEPT
EOH-DN (Y2)
JS101
EXCEPT EA
PJ102
PJ106
PJ103
PJ101
DECODER
V OUT
EA ONLY
AV2.V.IN (EXCEPT EA)
AV.V.IN (EA ONLY)
VIDEO/AUDIO
PB Y SIGNAL LINE
REC Y SIGNAL LINE
PB CHROMA SIGNAL LINE
REC CHROMA SIGNAL LINE
CCD OUT
(PB)
CCD IN
(PB)
LOW CHROMA IN
(PB)
LOW CHROMA OUT
(REC)
CCD CLK IN
VIDEO IN
(REC)

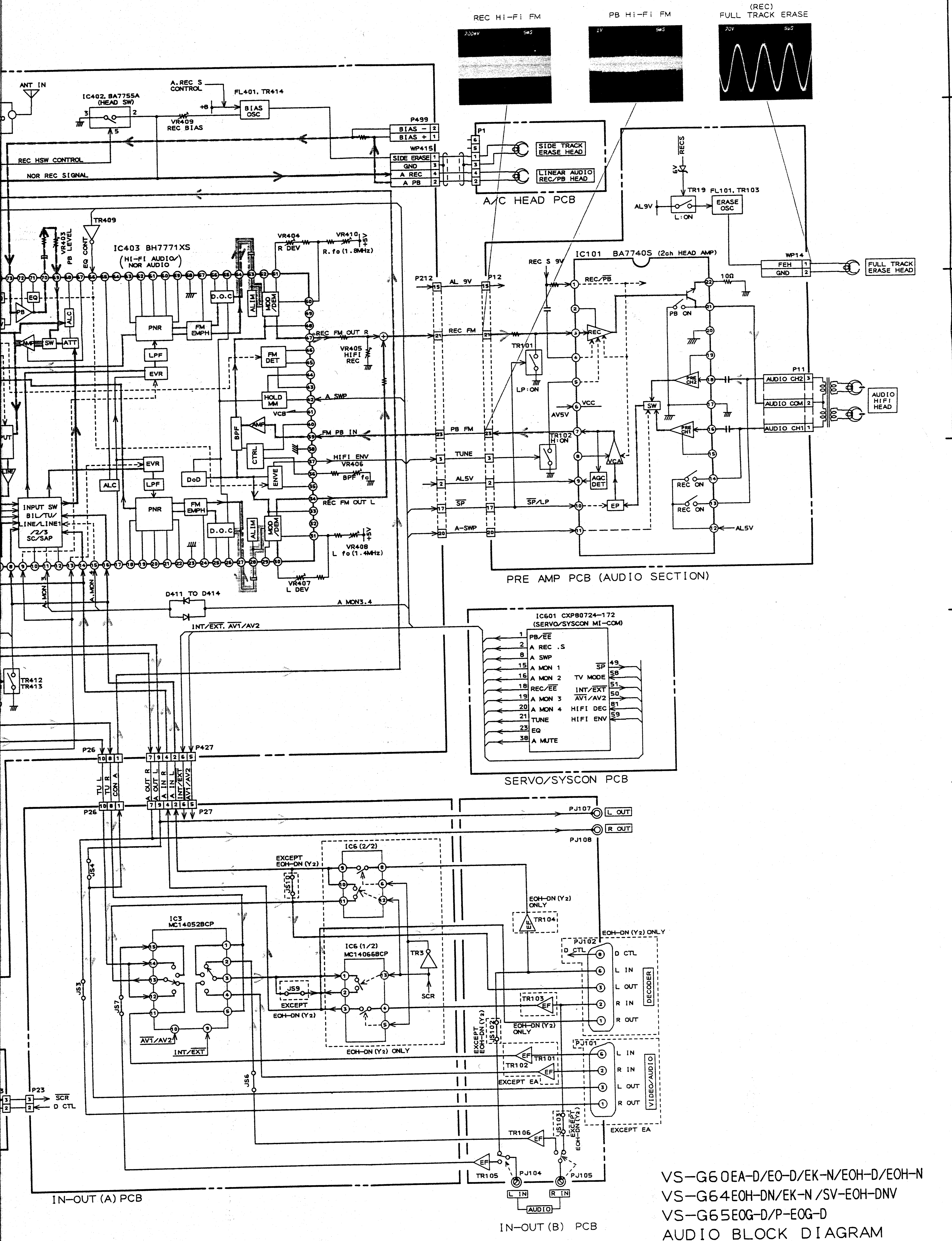
VS-G60EA-D/EO-D/EK-N/EOH-D/EOH-N
VS-G64EOH-DN/EK-N/SV-EOH-DNV
VS-G65EOG-D/P-EOG-D

VIDEO BLOCK DIAGRAM

NO.5-2 V117252M
A0

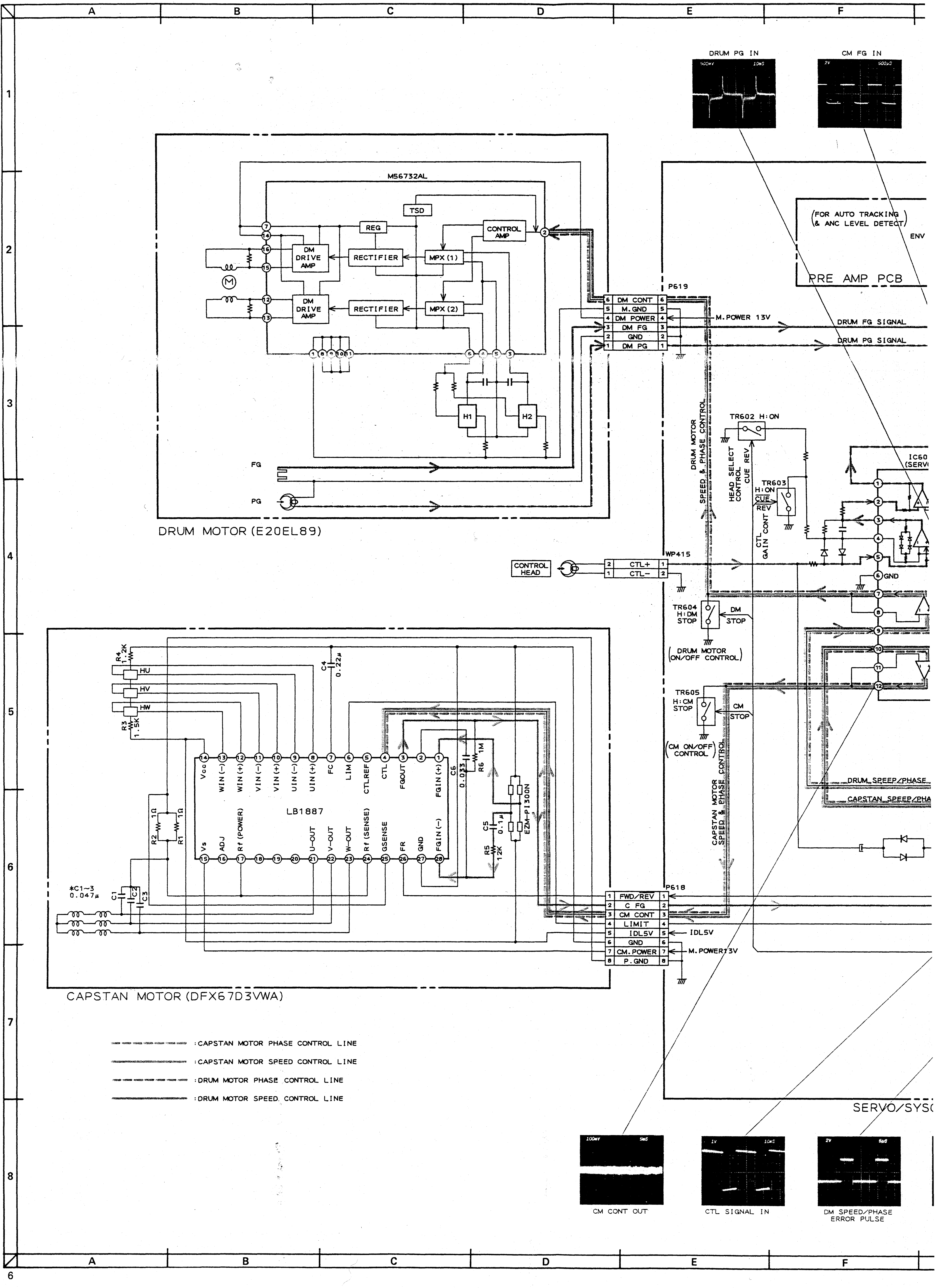

A
B
C
D
E
F
1
2
3
4
5
6
7
8
IC1 BA403 IF AMP
IC2 BA403 IF AMP
OUT
IN
VL1
VL2
FL1 5.74MHz
FL3 5.5MHz
TR3
TR4
STEREO SEPARATION
VR1
SIF IN
GND
P2
P43
RF DATA
RF CLK
SDA
SCL
E1
E2
A1
A4
MULTIPLEXED DECODER
IC3 TDA8417
TR1
TR2
TU L
TU R
D-MULTI PCB (EA, EO, EOG, EOH-D ONLY)
IC2 TDA1305T D/A CONVERTER
VOR
VOL
MUSB
DATA
IC1 CF70091A (DIGITAL NICAM728 STEREO DECODER)
I DATA
CARREIN
MUTE
FMSW
AGC
TR4
MUTE CONTROL
GAIN CONTROL
EOH-N, EK ONLY
JS2
SV-EOH-DNV EOH-DN ONLY
IC3 M5218AP
IC4 (1/4) MC4066BCP
IC4 (2/4)
IC4 (3/4)
IC4 (4/4)
TR5
TR6
TR7
TR8
TR11
SV-EOH-DNV, EOH-DN ONLY
IC101 BA403 (IF AMP)
IC102 BA403 (IF AMP)
FL101 5.74MHz
FL103 5.5MHz
TR101
VR101
TR102
FROM OPERATION MI-COM
IC103 TDA8417
D-MULTI SECTION
EOH-N, EK ONLY
JS1
IC5 M5218AP
FM MONO
TU R
NICAM/FM
TU L
TV MODE
RF DATA
RF CLK
AL 12V
AL5V
D-NICAM PCB (EK-N, EOH-N, EOH-DN, SV-EOH-DNV ONLY)
P2 SOUND IF OUT
IF1 VIF UNIT
TU1 TUNER
ANT IN
MD1 VIDEO IN AUDIO IN
RF OUT
IC402
REC HSW CONTROL
NOR REC SIGNAL
TR409
TV MODE
A MUTE
A MONI 1, 2
HIFI DEC
REC/EE
PB/EE
VR403 PB LEVEL
EQ CONT
REG
EQ
SW
PB
ALC
AMP
ATT
D407 to D410
OUTPUT CTRL
UNR7V
TR407 5V REG
+5V
UNR-7V
TR408 -5V REG
-5V
REG
OUTPUT SW
INPUT SW BIL/TU/ LINE/LINE1 /2/3 SC/SAP
ALC
MAX AMP
TR403
MUTE
TR404
MUTE DRIVE
TR401 TR402
A.MON
EOH-N, EOH-DN EK-N SV-EOH-DNV ONLY
R422
TR418
H:ON
TR412 TR413
TR410 TR411
P43
TU.R
TU.L
AL12V
AL5V
IC401 BA6138
AR DET
AL DET
METER DRIVE
P26
TU L
TU R
CON A
P410
T MUTE
AR DET
AL DET
Vref
VR
JS4
P9
NICAM/FM
RF DATA
RF CLK
MAIN PCB
JS3
JS7
BAR METER (IMS)
IC1 M38173M6 (OPERATION MI-COM)
P10
T MUTE
AR DET
AL DET
REC LEVEL
Vref
VR
OPERATION PCB
IDL12V
L:ON
P23
SCR
D CTL
TR207, 205
CONTROL PCB (EOH-DN (Y2) ONLY)
IN-OUT (A)
:NORMAL AUDIO PB SIGNAL LINE
:NORMAL AUDIO REC SIGNAL LINE
:HI-FI AUDIO PB SIGNAL LINE
:HI-FI AUDIO REC SIGNAL LINE
:PCM & DIGITAL SIGNAL LINE


A
B
C
D
E
F
1
2
3
4
5
6
7
8
D-MULTI PCB (EA, EO, EOG, EOH-D ONLY)
IC1 BA403 IF AMP
IC2 BA403 IF AMP
IC3 TDA8417
MULTIPLEXED DECODER
STEREO SEPARATION
VR1
TR3
TR4
TR1
TR2
VL1
VL2
FL1 5.74MHz
FL3 5.5MHz
P2
SIF IN
GND
P43
RF DATA
RF CLK
TU L
TU R
SDA
SCL
E1
E2
A1
A4
D-NICAM PCB (EK-N, EOH-N, EOH-DN, SV-EOH-DNV ONLY)
IC2 TDA1305T D/A CONVERTER
IC1 CF70091A (DIGITAL NICAM728) STEREO DECODER
VOR
VOL
DATA
MUSB
I DATA
CARRE IN
MUTE
FMSW
AGC
TR4
MUTE CONTROL
GAIN CONTROL
EOH-N, EK ONLY
JS2
SV-EOH-DNV EOH-DN ONLY
IC3 M5218AP
IC4 (1/4) MC4066BCP
IC4 (4/4)
IC4 (2/4)
IC4 (3/4)
TR5
TR6
EOH-N, EK ONLY
JS1
SV-EOH-DNV, EOH-DN ONLY
IC101 BA403 (IF AMP)
IC102 BA403 (IF AMP)
FL101 5.74MHz
FL103 5.5MHz
TR101
VR101
TR102
RF DATA
RF CLK
FROM OPERATION MI-COM
IC103 TDA8417
D-MULTI SECTION
IC5 M5218AP
TR7
TR8
TR11
FM MONO
TU R
NICAM/FM
TU L
TV MODE
RF DATA
RF CLK
AL 12V
AL5V
OPERATION PCB
BAR METER (IMS)
IC1 M38173M6 (OPERATION MI-COM)
P10
T MUTE
AR DET
AL DET
P9
NICAM/FM
RF DATA
RF CLK
REC LEVEL
Vref
VR
MAIN PCB
P410
T MUTE
AR DET
AL DET
Vref
VR
SOUND IF OUT
IF1 VIF UNIT
TU1 TUNER
ANT IN
MD1
RF OUT
VIDEO IN
AUDIO IN
IC402
REC HSW CONTROL
NOR REC SIGNAL
TV MODE
A MUTE
A.MONI 2
REC/EE
PB/EE
HIFI DEC
VR403 PB LEVEL
EQ CONT
TR409
REC
EQ
PB
SW
ALC
AMP
ATT
D407 to D410
OUTPUT CTRL
UNR7V
TR407 5V REG
+5V
REG
OUTPUT SW
LINE
UNR-7V
TR408 -5V REG
-5V
MAX AMP
INPUT SW BIL/TU/LINE/LINE1 /2/3 SC/SAP
TR403
MUTE
TR404
MUTE DRIVE
TR401 TR402
A.MON 2
A.MON 3
EOH-N, EOH-DN EK-N SV-EOH-DNV ONLY
R422
TR418
H:ON
TR412 TR413
TR410 TR411
TU.R
TU.L
AL12V
AL5V
IC401 BA6138
AR DET
AL DET
METER DRIVE
R
L
Vref
VR
P26
TU L
TU R
CON A
JS4
JS3
JS7
CONTROL PCB (EOH-DN (Y2) ONLY)
IDL12V
L:ON
P23
SCR
D CTL
TR207, 205
IN-OUT (A)
:NORMAL AUDIO PB SIGNAL LINE
:NORMAL AUDIO REC SIGNAL LINE
:HI-FI AUDIO PB SIGNAL LINE
:HI-FI AUDIO REC SIGNAL LINE
:PCM & DIGITAL SIGNAL LINE



REC Hi-Fi FM
PB Hi-Fi FM
(REC) FULL TRACK ERASE
ANT IN
IC402, BA7755A (HEAD SW)
A.REC S CONTROL
FL401, TR414
BIAS OSC
VR409 REC BIAS
REC HSW CONTROL
NOR REC SIGNAL
P499
BIAS -
BIAS +
WP415
SIDE ERASE
GND
A REC
A PB
P1
SIDE TRACK ERASE HEAD
LINEAR AUDIO REC/PB HEAD
A/C HEAD PCB
RECS
6V
TR19 FL101, TR103
AL9V
L:ON
ERASE OSC
WP14
FEH
GND
FULL TRACK ERASE HEAD
TR409
VR403 PB LEVEL
EQ CONT
IC403 BH7771XS (HI-FI AUDIO/ NOR AUDIO)
VR404 R DEV
VR410 R. fo (1.8MHz)
+5V
EQ
PB
AMP
SW
ATT
ALC
PNR
FM EMPH
D.O.C
ALIM
MOD /DEM
LPF
EVR
FM DET
HOLD MM
VCB
BPF
CTRL
AMP
ENVE
DoD
INPUT SW BIL/TU/ LINE/LINE1 /2/3 SC/SAP
REC FM OUT R
VR405 HIFI REC
A SWP
FM PB IN
HIFI ENV
VR406 BPF fo
REC FM OUT L
VR408 L fo (1.4MHz)
VR407 L DEV
A.MON 3
A.MON 4
D411 TO D414
A MON3.4
INT/EXT, AV1/AV2
TR412 TR413
P212
AL 9V
P12
REC FM
PB FM
TUNE
AL5V
SP
A-SWP
REC S 9V
IC101 BA7740S (2ch HEAD AMP)
REC/PB
REC
TR101
LP:ON
VCC
AV5V
TR102 H:ON
VCA
AGC DET
SF/LP
EP
PB ON
10Ω
PRE CH2
PRE CH1
SW
REC ON
AL5V
P11
AUDIO CH2
AUDIO COM
AUDIO CH1
AUDIO HIFI HEAD
PRE AMP PCB (AUDIO SECTION)
IC601 CXP80724-172 (SERVO/SYSCON MI-COM)
PB/EE
A REC .S
A SWP
A MON 1
A MON 2
REC/EE
A MON 3
A MON 4
TUNE
EQ
A MUTE
SP
TV MODE
INT/EXT
AV1/AV2
HIFI DEC
HIFI ENV
SERVO/SYSCON PCB
P26
P427
TU L
TU R
CON A
A OUT R
A OUT L
A IN R
A IN L
INT/EXT
AV1/AV2
P27
PJ107
L OUT
R OUT
PJ108
IC6 (2/2)
EXCEPT EOH-DN (Y2)
JS101
JS4
IC3 MC14052BCP
IC6 (1/2) MC14066BCP
TR3
SCR
JS9
EXCEPT EOH-DN (Y2)
AV1/AV2
INT/EXT
EOH-DN (Y2) ONLY
TR104
EOH-DN (Y2) ONLY
PJ102
D CTL
L IN
L OUT
R IN
R OUT
DECODER
TR103
EOH-DN (Y2) ONLY
EXCEPT EOH-DN (Y2)
JS102
PJ101
TR101
TR102
EXCEPT EA
VIDEO/AUDIO
JS3
JS7
JS6
P23
SCR
D CTL
JS103
EXCEPT EOH-DN (Y2)
TR106
TR105
PJ104
PJ105
L IN
R IN
AUDIO
IN-OUT (A) PCB
IN-OUT (B) PCB
F
G
H
I
J
K
1
2
3
4
5
6
7
8

VS-G60EA-D/EO-D/EK-N/EOH-D/EOH-N
VS-G64EOH-DN/EK-N/SV-EOH-DNV
VS-G65EOG-D/P-EOG-D
AUDIO BLOCK DIAGRAM
NO.5-3 V117253M A1


A
B
C
D
E
F
1
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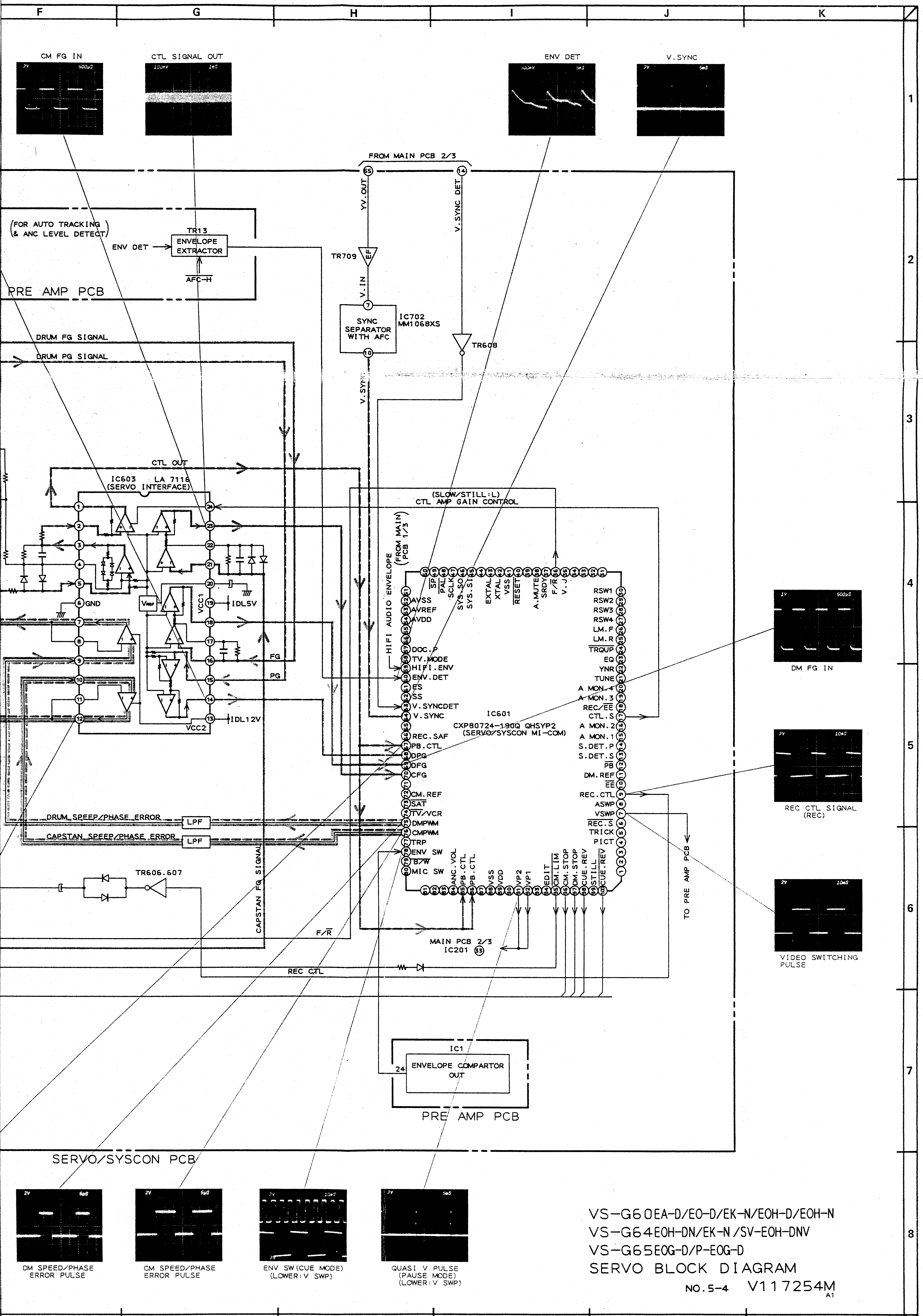
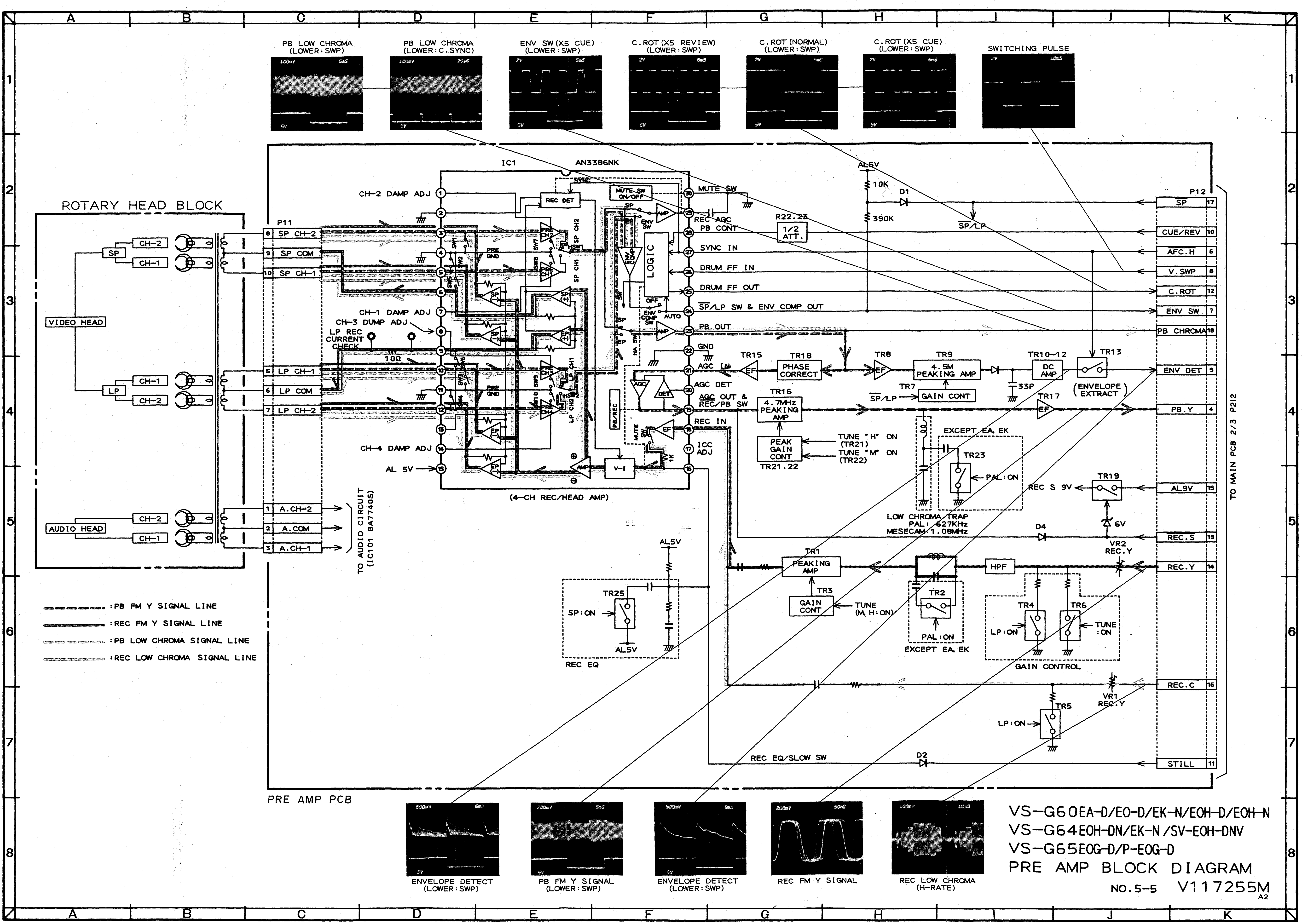
3
4
5
6
7
8
DRUM PG IN
CM FG IN
M56732AL
TSD
REG
CONTROL AMP
DM DRIVE AMP
RECTIFIER
MPX (1)
MPX (2)
H1
H2
FG
PG
DRUM MOTOR (E20EL89)
P619
DM CONT
M.GND
DM POWER
DM FG
GND
DM PG
M.POWER 13V
DRUM FG SIGNAL
DRUM PG SIGNAL
(FOR AUTO TRACKING & ANC LEVEL DETECT)
ENV
PRE AMP PCB
DRUM MOTOR SPEED & PHASE CONTROL
TR602 H:ON
HEAD SELECT CONTROL
CUE REV
TR603 H:ON
CUE
REV
CTL GAIN CONT
IC60
(SERV
GND
CONTROL HEAD
WP415
CTL+
CTL−
TR604 H:DM STOP
DM STOP
(DRUM MOTOR ON/OFF CONTROL)
TR605 H:CM STOP
CM STOP
(CM ON/OFF CONTROL)
CAPSTAN MOTOR SPEED & PHASE CONTROL
DRUM SPEEP/PHASE
CAPSTAN SPEEP/PHA
R4 1.2K
HU
HV
HW
R3 1.5K
C4 0.22μ
Vcc
WIN (−)
WIN (+)
VIN (−)
VIN (+)
UIN (−)
UIN (+)
FC
LIM
CTLREF
CTL
FGOUT
FGIN (+)
C6 0.033
R6 1M
LB1887
Vs
ADJ
Rf (POWER)
U-OUT
V-OUT
W-OUT
Rf (SENSE)
GSENSE
FR
GND
FGIN (−)
C5 0.1μ
R5 12K
EZM-P1300N
R2 1Ω
R1 1Ω
*C1~3 0.047μ
C1
C2
C3
P618
FWD/REV
C FG
CM CONT
LIMIT
IDL5V
GND
CM.POWER
P.GND
IDL5V
M.POWER13V
CAPSTAN MOTOR (DFX67D3VWA)
:CAPSTAN MOTOR PHASE CONTROL LINE
:CAPSTAN MOTOR SPEED CONTROL LINE
:DRUM MOTOR PHASE CONTROL LINE
:DRUM MOTOR SPEED CONTROL LINE
SERVO/SYS
CM CONT OUT
CTL SIGNAL IN
CM SPEED/PHASE ERROR PULSE


F
G
H
I
J
K
1
2
3
4
5
6
7
8
CM FG IN
CTL SIGNAL OUT
ENV DET
V.SYNC
FROM MAIN PCB 2/3
55
14
YV.OUT
V.SYNC DET
(FOR AUTO TRACKING & ANC LEVEL DETECT)
TR13
ENVELOPE EXTRACTOR
ENV DET
AFC-H
PRE AMP PCB
TR709
EF
V.IN
SYNC SEPARATOR WITH AFC
IC702
MM1068XS
TR608
V.SYNC
DRUM FG SIGNAL
DRUM PG SIGNAL
CTL OUT
IC603 LA 7116
(SERVO INTERFACE)
GND
VREF
VCC1
VCC2
IDL5V
IDL12V
FG
PG
(SLOW/STILL:L)
CTL AMP GAIN CONTROL
HIFI AUDIO ENVELOPE
(FROM MAIN PCB 1/3)
SP
PAL
SCLK
SYS.SO
SYS.SI
EXTAL
XTAL
VSS
RESET
A.MUTE
SRDY
F/R
V.J
AVSS
AVREF
AVDD
DOC.P
TV.MODE
HIFI.ENV
ENV.DET
ES
SS
V.SYNCDET
V.SYNC
REC.SAF
PB.CTL
DPG
DFG
CFG
CM.REF
SAT
TV/VCR
DMPWM
CMPWM
TRP
ENV SW
B/W
MIC SW
ANC.VOL
PB.CTL
PB.CTL
VSS
VDD
VP2
VP1
EDIT
CM.LIM
CM.STOP
DM.STOP
CUE.REV
STILL
CUE.REV
RSW1
RSW2
RSW3
RSW4
LM.F
LM.R
TRQUP
EQ
YNR
TUNE
A MON.4
A MON.3
REC/EE
CTL.S
A MON.2
A MON.1
S.DET.P
S.DET.S
PB
DM.REF
EE
REC.CTL
ASWP
VSWP
REC.S
TRICK
PICT
IC601
CXP80724-190Q QHSYP2
(SERVO/SYSCON MI-COM)
DRUM SPEEP/PHASE ERROR
CAPSTAN SPEEP/PHASE ERROR
LPF
LPF
TR606.607
CAPSTAN FG SIGNAL
F/R
MAIN PCB 2/3
IC201 53
REC CTL
TO PRE AMP PCB
DM FG IN
REC CTL SIGNAL (REC)
VIDEO SWITCHING PULSE
IC1
ENVELOPE COMPARTOR OUT
24
PRE AMP PCB
SERVO/SYSCON PCB
DM SPEED/PHASE ERROR PULSE
CM SPEED/PHASE ERROR PULSE
ENV SW (CUE MODE) (LOWER:V SWP)
QUASI V PULSE (PAUSE MODE) (LOWER:V SWP)

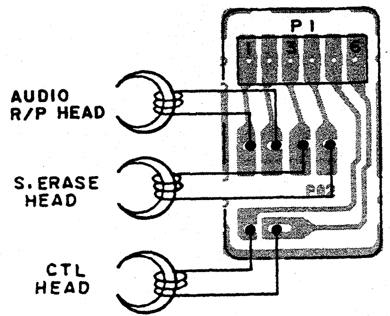
VS-G60EA-D/EO-D/EK-N/EOH-D/EOH-N
VS-G64EOH-DN/EK-N/SV-EOH-DNV
VS-G65EOG-D/P-EOG-D
SERVO BLOCK DIAGRAM
NO.5-4 V117254M
A1


PB LOW CHROMA (LOWER: SWP)
PB LOW CHROMA (LOWER: C.SYNC)
ENV SW (X5 CUE) (LOWER: SWP)
C.ROT (X5 REVIEW) (LOWER: SWP)
C.ROT (NORMAL) (LOWER: SWP)
C.ROT (X5 CUE) (LOWER: SWP)
SWITCHING PULSE
ROTARY HEAD BLOCK
VIDEO HEAD
AUDIO HEAD
SP
LP
CH-1
CH-2
P11
SP CH-2
SP COM
SP CH-1
LP CH-1
LP COM
LP CH-2
A.CH-2
A.COM
A.CH-1
TO AUDIO CIRCUIT (IC101 BA7740S)
IC1
AN3386NK
CH-2 DAMP ADJ
CH-1 DAMP ADJ
CH-3 DUMP ADJ
LP REC CURRENT CHECK
10Ω
CH-4 DAMP ADJ
AL 5V
REC DET
MUTE SW ON/OFF
LOGIC
PRE GND
ENV COMP SW
HA SW
PB/REC
V-I
AMP
EF
AGC
DET
(4-CH REC/HEAD AMP)
MUTE SW
REC AGC
PB CONT
SYNC IN
DRUM FF IN
DRUM FF OUT
SP/LP SW & ENV COMP OUT
PB OUT
GND
AGC IN
AGC DET
AGC OUT & REC/PB SW
REC IN
ICC ADJ
AL5V
10K
390K
D1
SP/LP
R22.23
1/2 ATT.
TR15
TR18
PHASE CORRECT
TR8
TR9
4.5M PEAKING AMP
TR7
GAIN CONT
33P
TR10~12
DC AMP
TR13
(ENVELOPE EXTRACT)
TR16
4.7MHz PEAKING AMP
PEAK GAIN CONT
TR21.22
TUNE "H" ON (TR21)
TUNE "M" ON (TR22)
TR17
EXCEPT EA, EK
TR23
PAL: ON
LOW CHROMA TRAP
PAL: 627KHz
MESECAM: 1.08MHz
TR19
REC S 9V
6V
D4
VR2 REC.Y
TR1
PEAKING AMP
TR3
GAIN CONT
TUNE (M, H:ON)
TR2
PAL: ON
EXCEPT EA, EK
HPF
TR4
TR6
LP: ON
TUNE : ON
GAIN CONTROL
VR1 REC.Y
TR5
LP: ON
REC EQ/SLOW SW
D2
TR25
SP: ON
REC EQ
P12
SP
CUE/REV
AFC.H
V.SWP
C.ROT
ENV SW
PB CHROMA
ENV DET
PB.Y
AL9V
REC.S
REC.Y
REC.C
STILL
TO MAIN PCB 2/3 P212
PRE AMP PCB
:PB FM Y SIGNAL LINE
:REC FM Y SIGNAL LINE
:PB LOW CHROMA SIGNAL LINE
:REC LOW CHROMA SIGNAL LINE
ENVELOPE DETECT (LOWER: SWP)
PB FM Y SIGNAL (LOWER: SWP)
ENVELOPE DETECT (LOWER: SWP)
REC FM Y SIGNAL
REC LOW CHROMA (H-RATE)

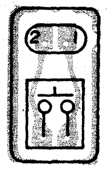
VS-G60EA-D/EO-D/EK-N/EOH-D/EOH-N
VS-G64EOH-DN/EK-N/SV-EOH-DNV
VS-G65EOG-D/P-EOG-D

PRE AMP BLOCK DIAGRAM

NO.5-5 V117255M
A2

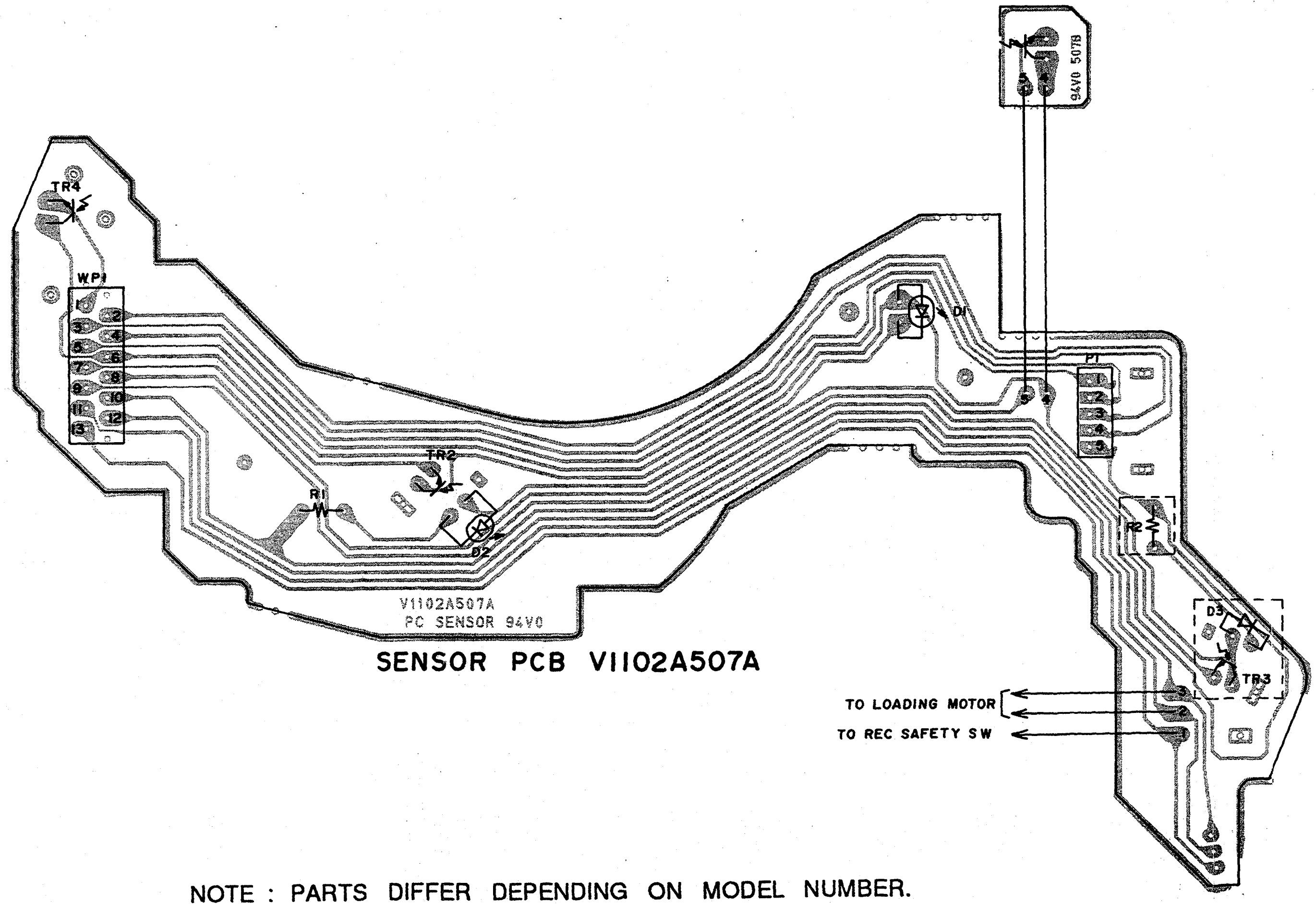

P1
AUDIO R/P HEAD
S.ERASE HEAD
CTL HEAD

A / C HEAD PCB
V1102B5120(J1)

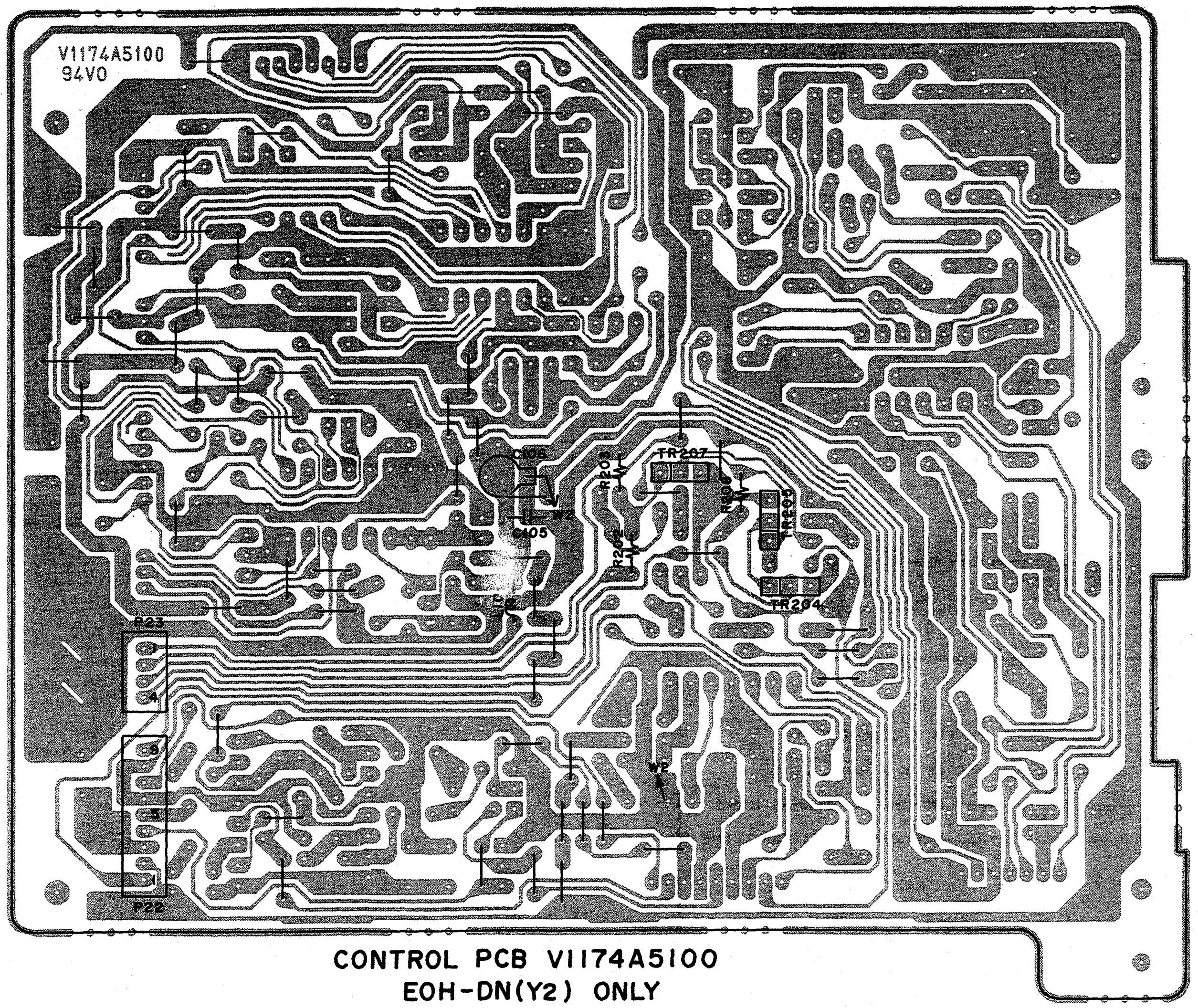


S-SWITCH PCB
V1154C5180

SENSOR(S) PCB
V1102A507B

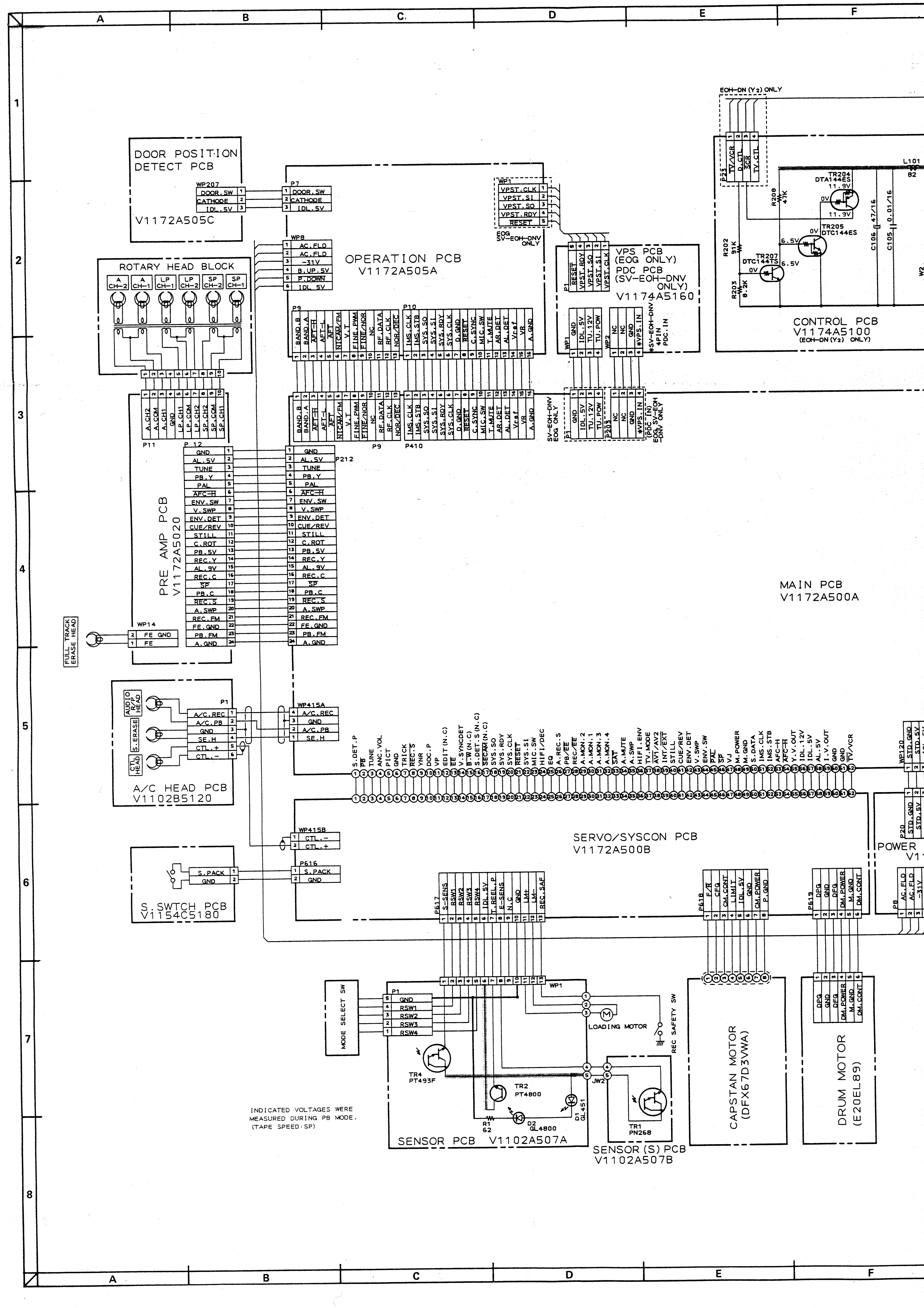

TR4
WP1
TR2
R1
D2
D1
P1
R2
D3
TR3
V1102A507A
PC SENSOR 94V0
TO LOADING MOTOR
TO REC SAFETY SW

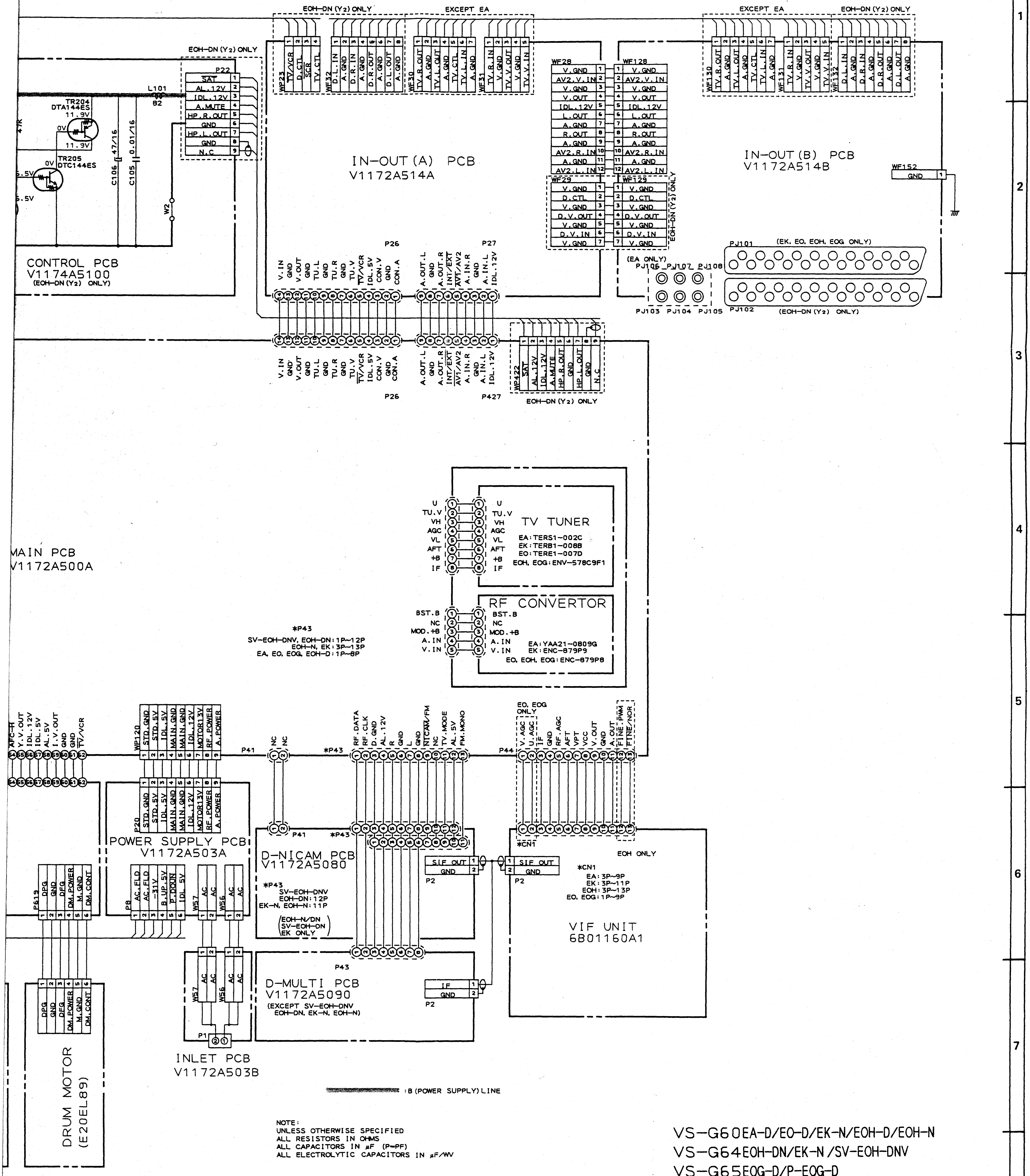
SENSOR PCB V1102A507A


V1174A5100
94V0
TR207
TR204
P23
P22

CONTROL PCB V1174A5100
EOH-DN(Y2) ONLY

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER.
REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT
PARTS INFORMATION.

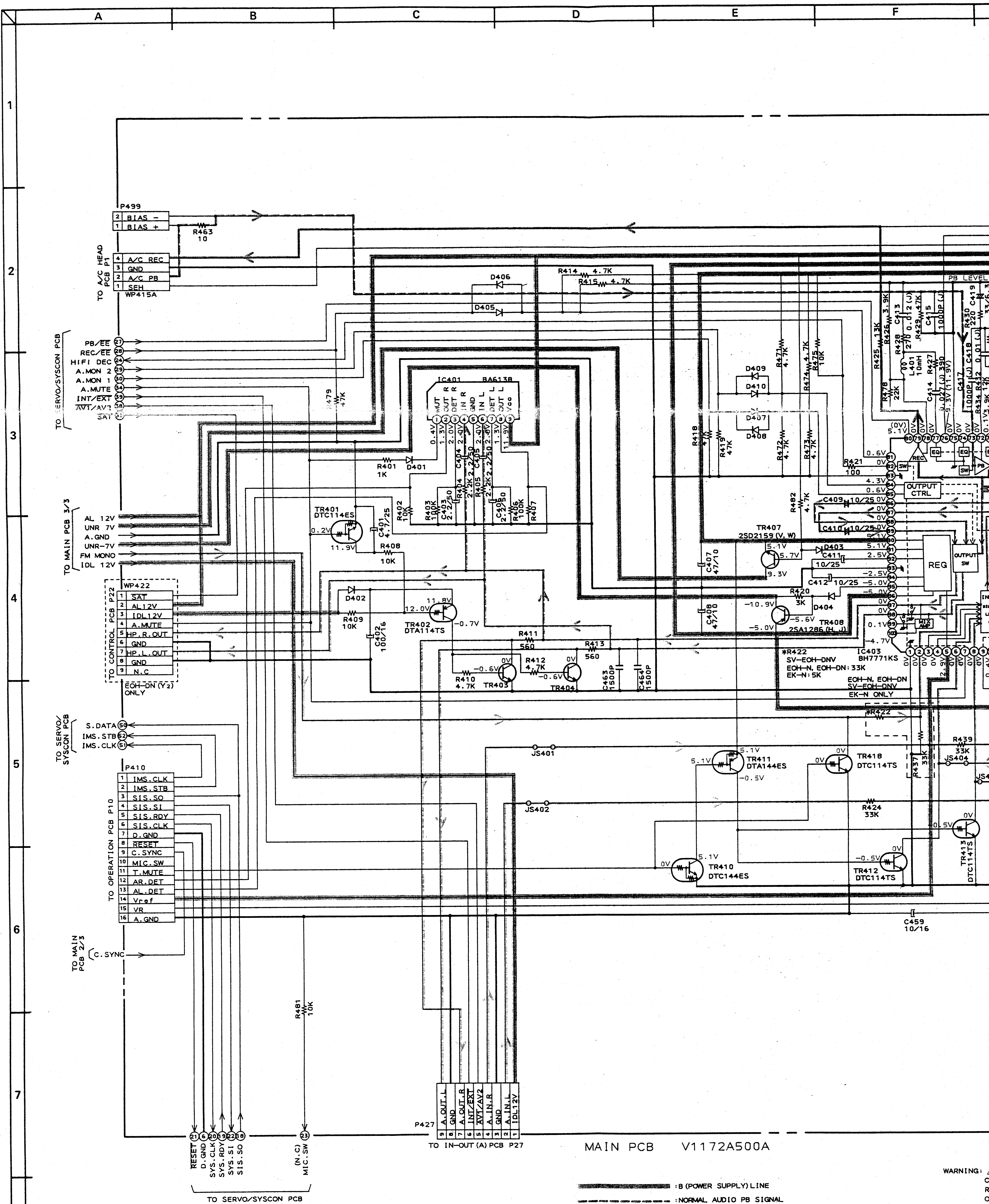

DOOR POSITION DETECT PCB
V1172A505C
WP207
DOOR.SW
CATHODE
IDL.5V
P7
ROTARY HEAD BLOCK
A CH-2
A CH-1
LP CH-1
LP CH-2
SP CH-2
SP CH-1
OPERATION PCB
V1172A505A
WP8
AC.FLD
-31V
B.UP.5V
P.DOWN
IDL.5V
WP1
VPST.CLK
VPST.SI
VPST.SO
VPST.RDY
RESET
EOG SV-EOH-DNV ONLY
VPS PCB (EOG ONLY)
PDC PCB (SV-EOH-DNV ONLY)
V1174A5160
*SV-EOH-DNV 4PIN PDC.IN
EOH-DN (Y2) ONLY
P21
TV/VCR
D.CTL
SCR
TV.CTL
TR204 DTA144ES
TR205 DTC144ES
TR207 DTC144TS
R208 47K
R202 91K
R203 8.2K
C106 47/16
C105 0.01/16
L101 82
11.9V
6.5V
0V
CONTROL PCB
V1174A5100
(EOH-DN (Y2) ONLY)
P9
P10
BAND.B
BAND.A
AFT-H
AFT-L
AFT
NICAM/FM
V.T
FINE.PWM
FINE/NOR
NC
RE.DATA
RE.CLK
NOR/DEC
IMS.CLK
IMS.STB
SYS.SO
SYS.SI
SYS.RDY
SYS.CLK
D.GND
RESET
C.SYNC
MIC.SW
T.MUTE
AR.DET
AL.DET
Vref
VR
A.GND
P410
GND
IDL.5V
TU.12V
TU.POW
P203
*VPS.IN
(PDC IN) EOG,SV-EOH DNV ONLY
SV-EOH-DNV EOG ONLY
P11
A.CH2
A.COM
A.CH1
LP.CH1
LP.COM
LP.CH2
SP.CH2
SP.COM
SP.CH1
P12
P212
AL.5V
TUNE
PB.Y
PAL
AFC-H
ENV.SW
V.SWP
ENV.DET
CUE/REV
STILL
C.ROT
PB.5V
REC.Y
AL.9V
REC.C
SP
PB.C
REC.S
A.SWP
REC.FM
FE.GND
PB.FM
PRE AMP PCB
V1172A5020
MAIN PCB
V1172A500A
FULL TRACK ERASE HEAD
WP14
FE GND
FE
AUDIO R/P HEAD
S.ERASE
CTL HEAD
A/C.REC
A/C.PB
SE.H
CTL.+
CTL.-
A/C HEAD PCB
V1102B5120
WP415A
WP415B
S.SWTCH PCB
V1154C5180
S.PACK
P616
SERVO/SYSCON PCB
V1172A500B
WP120
STD.GND
STD.5V
P20
POWER
P617
S-SENS
RSW1
RSW2
RSW3
RSW4
T.REEL.P
E-SENS
N.C
LM+
LM-
REC.SAF
P618
F/R
CFG
CM.CONT
LIMIT
CM.POWER
P.GND
P619
DFG
DM.POWER
M.GND
M.CONT
P8
MODE SELECT SW
LOADING MOTOR
REC SAFETY SW
TR4 PT493F
TR2 PT4800
D2 GL4800
D1 GL451
R1 62
JW2
TR1 PN268
SENSOR PCB V1102A507A
SENSOR (S) PCB V1102A507B
CAPSTAN MOTOR (DFX67D3VWA)
DRUM MOTOR (E20EL89)
INDICATED VOLTAGES WERE MEASURED DURING PB MODE. (TAPE SPEED:SP)
A
B
C
D
E
F
1
2
3
4
5
6
7
8


EOH-DN (Y2) ONLY
EXCEPT EA
IN-OUT (A) PCB
V1172A514A
IN-OUT (B) PCB
V1172A514B
CONTROL PCB
V1174A5100
(EOH-DN (Y2) ONLY)
MAIN PCB
V1172A500A
TV TUNER
EA:TERS1-002C
EK:TERB1-008B
EO:TERE1-007D
EOH, EOG:ENV-578C9F1
RF CONVERTOR
EA:YAA21-0809G
EK:ENC-879P9
EO, EOH, EOG:ENC-879P8
*P43
SV-EOH-DNV, EOH-DN:1P~12P
EOH-N, EK:3P~13P
EA, EO, EOG, EOH-D:1P~8P
POWER SUPPLY PCB
V1172A503A
D-NICAM PCB
V1172A5080
*P43
SV-EOH-DNV
EOH-DN:12P
EK-N, EOH-N:11P
(EOH-N/DN
SV-EOH-DN
EK ONLY)
D-MULTI PCB
V1172A5090
(EXCEPT SV-EOH-DNV
EOH-DN, EK-N, EOH-N)
VIF UNIT
6B01160A1
EOH ONLY
*CN1
EA:3P~9P
EK:3P~11P
EOH:3P~13P
EO, EOG:1P~9P
EO, EOG ONLY
INLET PCB
V1172A503B
DRUM MOTOR
(E20EL89)
PJ101 (EK, EO, EOH, EOG ONLY)
PJ102 (EOH-DN (Y2) ONLY)
(EA ONLY)
PJ106 PJ107 PJ108
PJ103 PJ104 PJ105
P22
P26
P27
P427
P41
P43
P44
P2
P20
P8
P619
P1
WF23
WF32
WF30
WF31
WF28
WF128
WF29
WF129
WF130
WF131
WF132
WF152
WP422
WP120
W57
W56
L101
82
TR204
DTA144ES
TR205
DTC144ES
C106 47/16
C105 0.01/16
W2
SAT
AL.12V
IDL.12V
A.MUTE
HP.R.OUT
GND
HP.L.OUT
N.C
V.IN
V.OUT
TU.L
TU.R
TU.V
TV/VCR
IDL.5V
CON.V
CON.A
A.OUT.L
A.OUT.R
INT/EXT
AVT/AV2
A.IN.R
A.IN.L
V.GND
AV2.V.IN
L.OUT
A.GND
R.OUT
AV2.R.IN
AV2.L.IN
D.CTL
D.V.OUT
D.V.IN
SCR
TV.CTL
D.L.IN
D.R.IN
D.R.OUT
D.L.OUT
TV.R.OUT
TV.L.OUT
TV.L.IN
TV.R.IN
TV.V.OUT
TV.V.IN
U
VH
AGC
VL
AFT
+B
IF
BST.B
NC
MOD.+B
A.IN
STD.GND
STD.5V
MAIN.GND
MOTOR13V
RF.POWER
A.POWER
RF.DATA
RF.CLK
D.GND
NICAM/FM
TV.MODE
AL.5V
FM.MONO
V.AGC
U.AGC
RF.AGC
VPT
VCC
A.OUT
FINE/PWM
FINE/NOR
SIF OUT
AC.FLD
-31V
B.UP.5V
P.DOWN
AC
DPG
DFG
DM.POWER
M.GND
DM.CONT
AFC-H
Y.V.OUT
AL.5V
11.9V
0V
6.5V
F
G
H
I
J
K
1
2
3
4
5
6
7
8
9

: B (POWER SUPPLY) LINE

NOTE:
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μF (P=PF)
ALL ELECTROLYTIC CAPACITORS IN μF/WV

VS-G60EA-D/EO-D/EK-N/EOH-D/EOH-N
VS-G64EOH-DN/EK-N/SV-EOH-DNV
VS-G65EOG-D/P-EOG-D
CONNECTION DIAGRAM
NO.18-1 V117201M
A1


A
B
C
D
E
F
1
2
3
4
5
6
7
8
P499
BIAS -
BIAS +
R463 10
TO A/C HEAD PCB P1
A/C REC
GND
A/C PB
SEH
WP415A
TO SERVO/SYSCON PCB
PB/EE
REC/EE
HIFI DEC
A.MON 2
A.MON 1
A.MUTE
INT/EXT
AVT/AV2
SAT
TO MAIN PCB 3/3
AL 12V
UNR 7V
A.GND
UNR-7V
FM MONO
IDL 12V
TO CONTROL PCB P22
WP422
SAT
AL12V
IDL12V
A.MUTE
HP.R.OUT
GND
HP.L.OUT
GND
N.C
EOH-DN (Y2) ONLY
TO SERVO/SYSCON PCB
S.DATA
IMS.STB
IMS.CLK
TO OPERATION PCB P10
P410
IMS.CLK
IMS.STB
SIS.SO
SIS.SI
SIS.RDY
SIS.CLK
D.GND
RESET
C.SYNC
MIC.SW
T.MUTE
AR.DET
AL.DET
Vref
VR
A.GND
TO MAIN PCB 2/3
C.SYNC
R481 10K
RESET
D.GND
SYS.CLK
SYS.RDY
SYS.SI
SIS.SO
(N.C) MIC.SW
TO SERVO/SYSCON PCB
D406
D405
R414 4.7K
R415 4.7K
R479 47K
IC401 BA6138
MUT R
OUT R
DET R
IN R
GND
IN L
DET L
OUT L
Vaa
R401 1K
D401
C404 2.2/50
R404 2.2K
R405 2.2K
C405 2.2/50
R402 10K
R403 100K
C403 2.2/50
C406 2.2/50
R406 100K
R407
TR401 DTC114ES
C401 4.7/25
R408 10K
D402
R409 10K
TR402 DTA114TS
C402 100/16
R411 560
R413 560
R410 4.7K
TR403
R412 4.7K
TR404
C463 1500P
C464 1500P
D409
D410
D407
D408
R418 4.7K
R419 47K
R471 4.7K
R472 4.7K
R473 4.7K
R474 4.7K
R475 10K
R482 4.7K
R421 100
C409 10/25
C410 10/25
TR407 2SD2159 (V, W)
D403
C411
C412 10/25
R420 3K
D404
TR408 2SA1286 (H, J)
C407 47/10
C408 47/10
*R422
SV-EOH-DNV
EOH-N, EOH-DN: 33K
EK-N: 5K
EOH-N, EOH-DN
SV-EOH-DNV
EK-N ONLY
IC403 BH7771KS
REG
OUTPUT CTRL
OUTPUT SW
MIX AMP
REC
EQ
SW
PB LEVEL
R425 13K
R426 3.9K
R428 270
C413 0.012 (J)
R429 47K
C415 1000P (J)
L401 10mH
R427 390
C414 0.027 (J)
C417 1000P (J)
C418 0.01 (J)
C419
R430 220
R478 22K
R432
R434 12K
JS401
JS402
JS404
TR411 DTA144ES
TR418 DTC114TS
R437 33K
R439 33K
R424 33K
TR410 DTC144ES
TR412 DTC114TS
TR413 DTC114TS
C459 10/16
P427
A.OUT.L
GND
A.OUT.R
INT/EXT
AVT/AV2
A.IN.R
GND
A.IN.L
IDL12V
TO IN-OUT (A) PCB P27

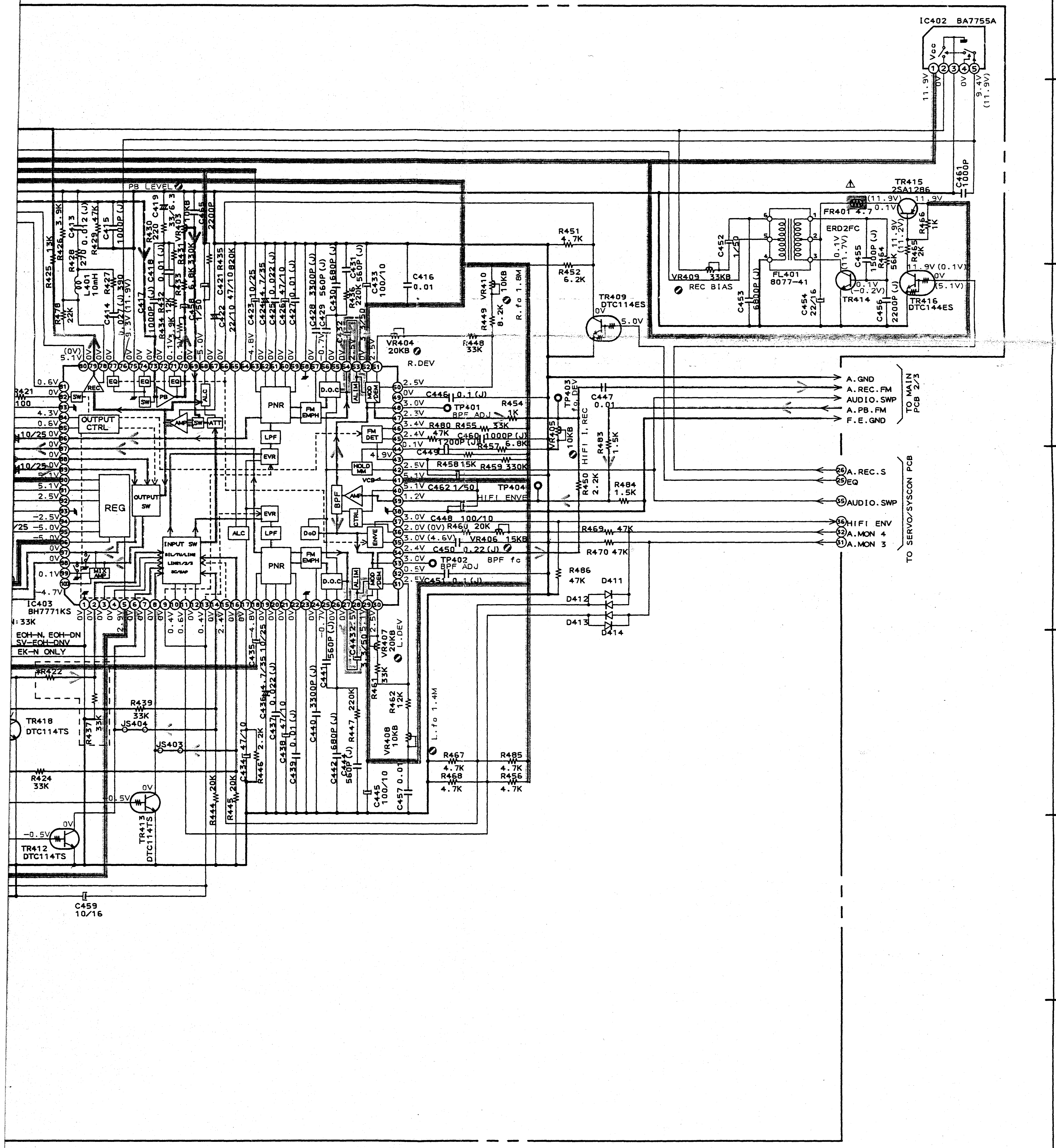
MAIN PCB V1172A500A

▬	:B (POWER SUPPLY) LINE
- - -	:NORMAL AUDIO PB SIGNAL
—	:NORMAL AUDIO REC SIGNAL
┄	:HI-FI AUDIO PB SIGNAL
┄	:HI-FI AUDIO REC SIGNAL

INDICATED VOLTAGES WERE
MEASURED DURING PB MODE.
( ) REC MODE

WARNING:

AVERTISSM


IC402 BA7755A
Vcc
11.9V
0V
9.4V
(11.9V)
C461 1000P
TR415 2SA1286
FR401 4.7
ERD2FC
R466 1K
R465 2K
FL401 8077-41
VR409 33KB
REC BIAS
C452 1/50
C453 6800P (J)
C454 22/16
C455 1500P (J)
R464 56K
C456 2200P (J)
TR414
TR416 DTC144ES
R451 4.7K
R452 6.2K
TR409 DTC114ES
5.0V
PB LEVEL
VR404 20KB
R.DEV
R449 8.2K
VR410 10KB
R.fo 1.8M
R448 33K
C416 0.01
C433 100/10
PNR
FM EMPH
D.O.C
LPF
EVR
REG
OUTPUT SW
OUTPUT CTRL
INPUT SW
ALC
ATT
MIX AMP
FM DET
HOLD MM
BPF
AMP
CTRL
ENVE
DoD
LIM
MOD DEM
IC403 BH7771KS
EOH-N, EOH-DN
SV-EOH-DNV
EK-N ONLY
TP401 BPF ADJ
TP402 BPF fo
TP403 fo DEV
TP404 HIFI ENVE
VR405 10KB
HIFI I. REC
VR406 15KB
VR407 20KB L.DEV
VR408 10KB L.fo 1.4M
R469 47K
R470 47K
R484 1.5K
R486 47K
D411
D412
D413
D414
R467 4.7K
R468 4.7K
R485 4.7K
R456 4.7K
C445 100/10
C457 0.01
TR418 DTC114TS
TR413 DTC114TS
TR412 DTC114TS
C459 10/16
R424 33K
R439 33K
JS404
JS403
A.GND
A.REC.FM
AUDIO.SWP
A.PB.FM
F.E.GND
TO MAIN PCB 2/3
A.REC.S
EQ
AUDIO.SWP
HIFI ENV
A.MON 4
A.MON 3
TO SERVO/SYSCON PCB

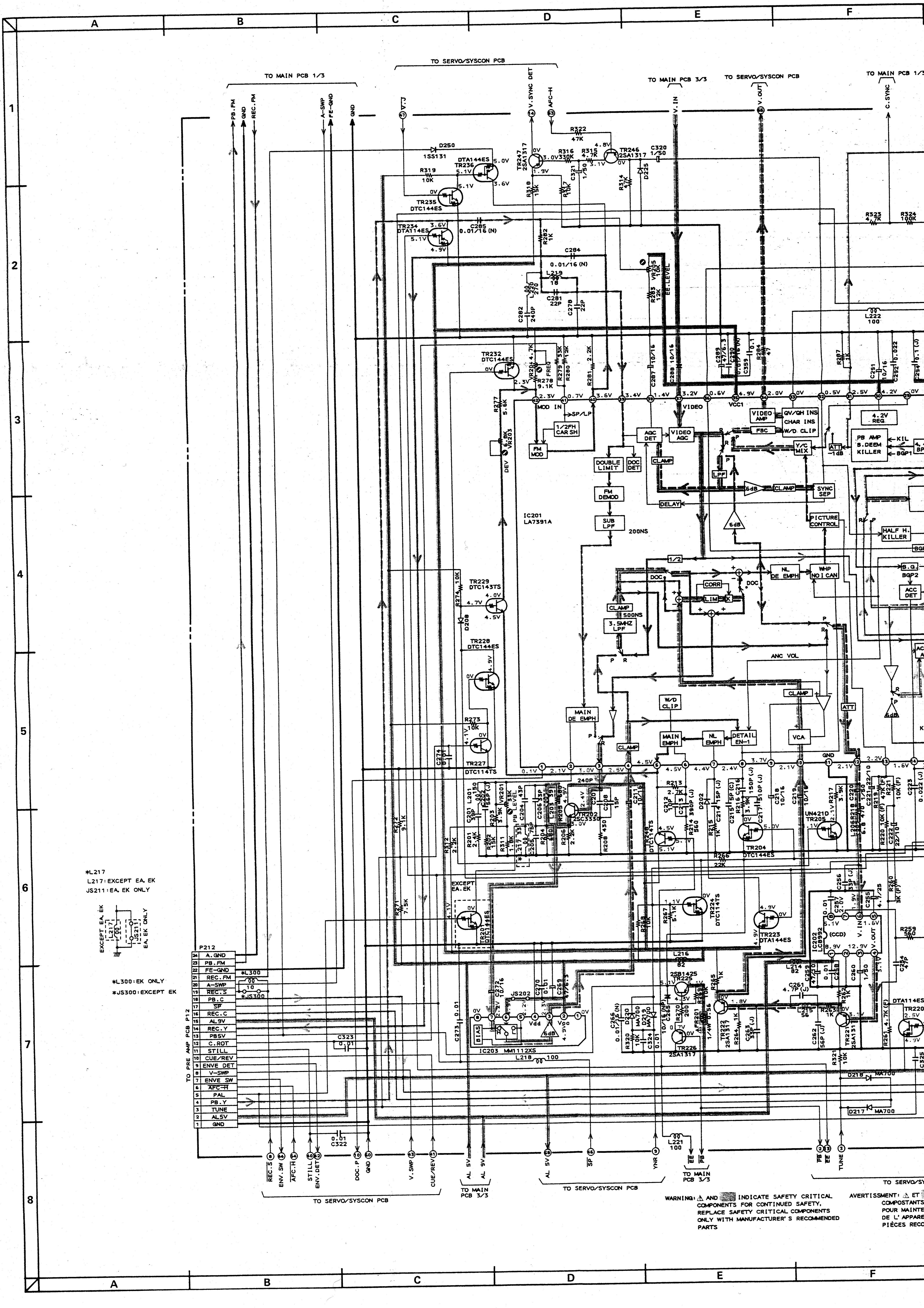
WARNING: ⚠AND ▨ INDICATE SAFETY CRITICAL
COMPONENTS FOR CONTINUED SAFETY.
REPLACE SAFETY CRITICAL COMPONENTS
ONLY WITH MANUFACTURER'S RECOMMENDED
PARTS

AVERTISSMENT: ⚠ ET ▨, ILS INDIQUENT LES
COMPOSTANTS CRITIQUES DE SÉCURITÉ.
POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ
DE L'APPAREIL, NE REMPLACER QUE DES
PIÈCES RECOMMANDEES PAR LE FABRICANT

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μF (P=PF)
ALL ELECTROLYTIC CAPACITORS IN μF/WV
ALL INDUCTORS IN μH (K)
ALL TRANSISTORS ARE 2SA1317 (PNP) OR 2SC3330 (NPN)
ALL DIODES ARE 1SS131T

VS-G60EA-D/EO-D/EK-N/EOH-D/EOH-N
VS-G64EOH-DN/EK-N/SV-EOH-DNV
VS-G65EOG-D/P-EOG-D
MAIN 1/3 (Hi-Fi/NOR AUDIO BLK)
SCHEMATIC DIAGRAM

NO.18-2 V117202M A1


A
B
C
D
E
F
1
2
3
4
5
6
7
8
TO MAIN PCB 1/3
PB.FM
GND
REC.FM
A-SWP
FE-GND
GND
TO SERVO/SYSCON PCB
V.J
V.SYNC DET
AFC-H
TO MAIN PCB 3/3
V.IN
TO SERVO/SYSCON PCB
V.OUT
C.SYNC
R322 47K
TR246 2SA1317
C320 1/50
R316 330K
R315 4.7K
D250 1SS131
DTA144ES TR236
TR247 2SA1317
R319 10K
TR235 DTC144ES
TR234 DTA114ES
C285 0.01/16 (N)
R282 1K
C284 0.01/16 (N)
L219 18
L220 270
C281 22P
C278 22P
C282 240P
R283 12K
VR205 10K
EE.LEVEL
R323 4.7K
R324 100K
L222 100
TR232 DTC144ES
R278 9.1K
R277 5.6K
VR204 4.7K FREQ
R279 33K
R280 12K
R281 2.2K
C287 10/16
C288 10/16
C289 47/6.3
C290
C359
R284 47
R287 1K
C291 10/16
C292 0.022
C294 0.1
MOD IN
SP/LP
1/2FH CAR SH
FM MOD
VR203 6.8K DEV
AGC DET
VIDEO AGC
VIDEO
VCC1
VIDEO AMP
QV/QH INS CHAR INS W/D CLIP
FBC
Y/C MIX
ATT -1dB
4.2V REG
PB AMP B.DEEM KILLER
KIL
BGP1
DOUBLE LIMIT
DOC DET
CLAMP
LPF
6dB
SYNC SEP
FM DEMOD
DELAY
PICTURE CONTROL
SUB LPF
200NS
IC201 LA7391A
HALF H. KILLER
1/2
NL DE EMPH
WHP NOI CAN
B.G.
BGP2
ACC DET
DOC
CORR
LIM
CLAMP 500NS
3.5MHZ LPF
ANC VOL
TR229 DTC143TS
R274 10K
D208
TR228 DTC144ES
W/D CLIP
CLAMP
MAIN DE EMPH
MAIN EMPH
NL EMPH
DETAIL EN-1
VCA
ATT
R273 10K
TR227 DTC114TS
C274 0.01
240P
R213 2.7K
D202
R214 390P
TR204 DTC144ES
UN4210 TR205
R212 9.1K
R312 2.2K
R201 2.4K
R202 15K
R203 3.9K
TR202 2SC3330
R208 430
R206 2.2K
R266 22K
TR224 DTC114TS
TR223 DTA144ES
EXCEPT EA.EK
R271 7.5K
TR201 DTC144ES
R268 10K
R267 5.1K
L216 82
2SB1425 TR225
L214 82
C261 4.7P (J)
IC202 LC8992 (CCD)
V.IN
V.OUT
R259 560
DTA114ES TR220
C272 10/16
JS202
C270 0.01
C269 47/6.3
BIAS
Vdd
6dB
Vcc
IC203 MM1112XS
L218 100
C273 0.01
C323 0.01
C266 0.015 (N)
D220 MA700
D219 MA700
R320 10K
C324 0.01
TR226 2SA1317
TR222 2SA1317
R264 1K
C262 56P (J)
TR221 2SA1317
R321 10K
D218 MA700
D217 MA700
C322 0.01
L221 100
P212
A.GND
PB.FM
FE-GND
REC.FM
A-SWP
REC.S
PB.C
SP
REC.C
AL.9V
REC.Y
PB5V
C.ROT
STILL
CUE/REV
ENVE DET
V-SWP
ENVE SW
AFC-H
PAL
PB.Y
TUNE
AL5V
GND
*L300
*JS300
TO PRE AMP PCB P12
REC.S
ENV.SW
AFC.H
STILL
ENV.DET
DOC.P
GND
V.SWP
CUE/REV
TO SERVO/SYSCON PCB
AL 5V
AL 9V
TO MAIN PCB 3/3
AL 5V
SP
YNR
TO SERVO/SYSCON PCB
EE
PB
TO MAIN PCB 3/3
PB
EE
TUNE
TO SERVO/SY

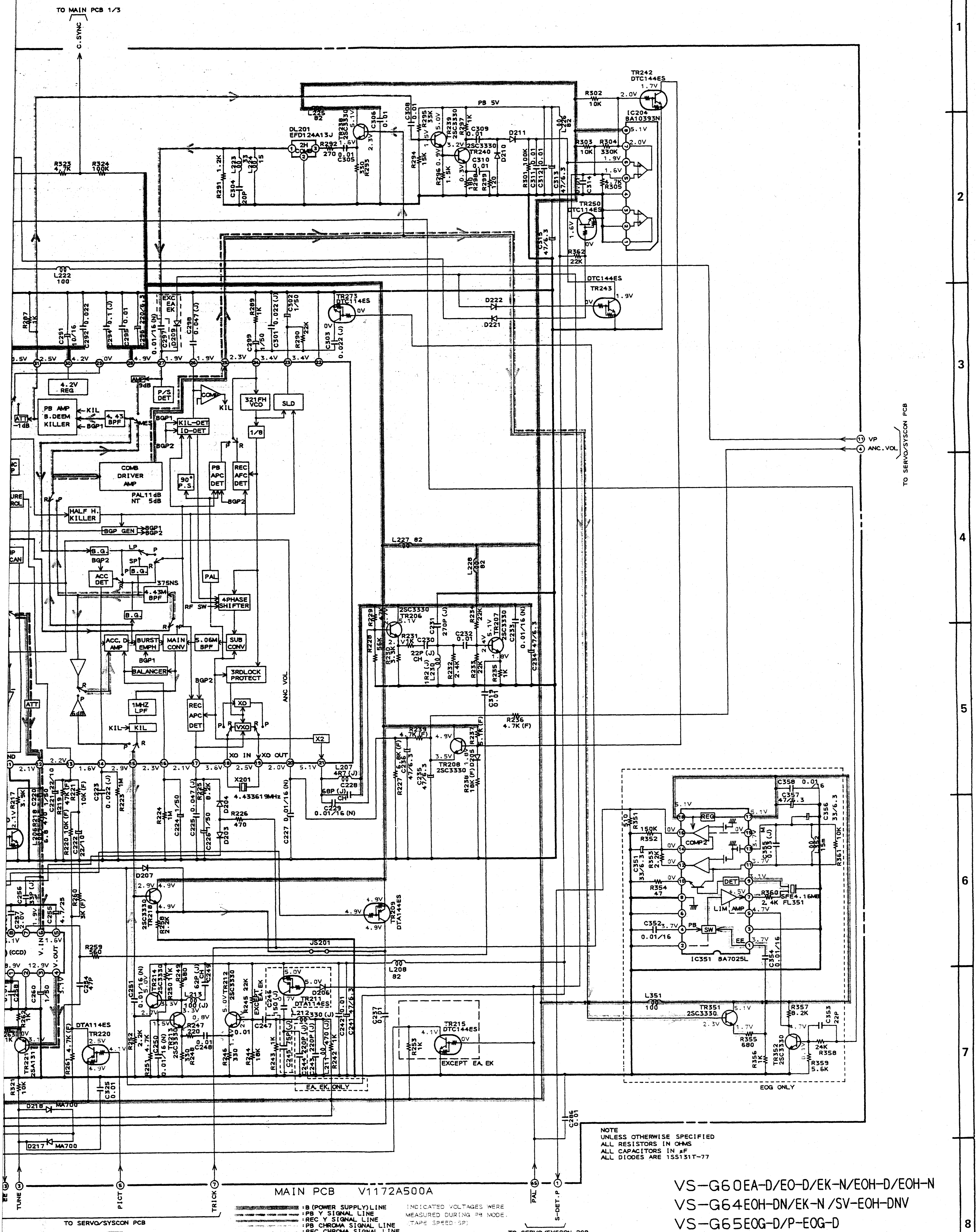
*L217
L217: EXCEPT EA, EK
JS211: EA, EK ONLY

EXCEPT EA, EK
EA, EK ONLY

*L300: EK ONLY
*JS300: EXCEPT EK

WARNING: ⚠ AND ▨ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSMENT: ⚠ ET
COMPOSTANTS
POUR MAINTE
DE L' APPARE
PIÈCES RECO



TO MAIN PCB 1/3
C.SYNC
PB AMP
B.DEEM
KILLER
4.2V REG
4.43 BPF
P/S DET
COMP
KIL-DET
ID-DET
321FH VCO
SLD
1/8
COMB DRIVER AMP
PAL 11dB
NT 5dB
90° P.S.
PB APC DET
REC AFC DET
HALF H. KILLER
BGP GEN
B.G.
ACC DET
4.43M BPF
4PHASE SHIFTER
ACC. D AMP
BURST EMPH
MAIN CONV
5.06M BPF
SUB CONV
BALANCER
3RDLOCK PROTECT
1MHZ LPF
KIL
REC APC DET
XO
VXO
X2
XO IN
XO OUT
X201 4.433619MHz
ANC VOL
VP
ANC. VOL
TO SERVO/SYSCON PCB
IC204 BA10393N
IC351 BA7025L
REQ
COMP2
DET
LIM AMP
SW
EE
CFE4.16MB FL351
EOG ONLY
EXCEPT EA, EK
EA, EK, ONLY
JS201
TUNE
PICT
TRICK
PAL
S-DET.P

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN µF
ALL DIODES ARE 1SS131T-77

MAIN PCB V1172A500A

TO SERVO/SYSCON PCB

TO SERVO/SYSCON PCB

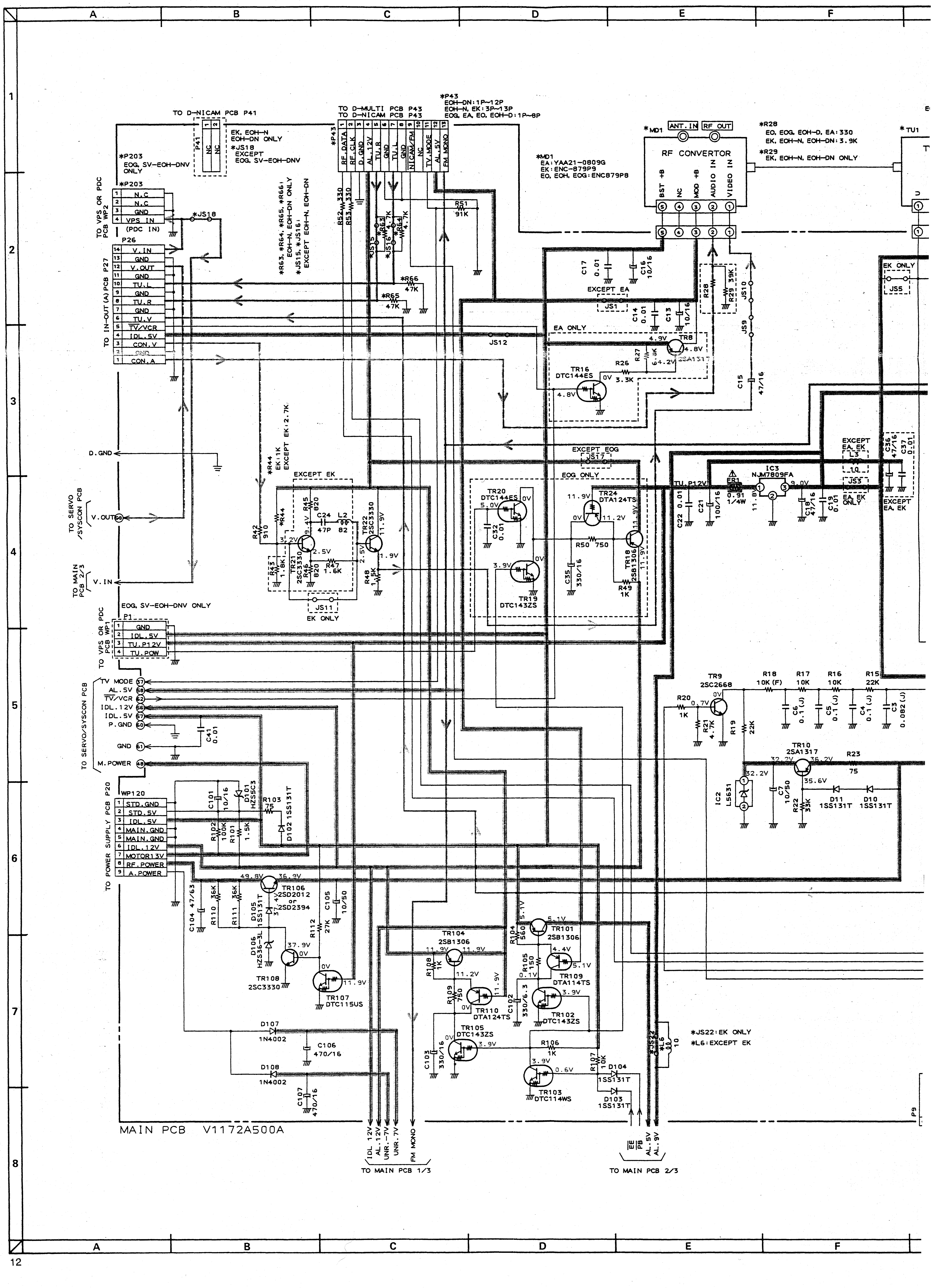
- :B (POWER SUPPLY) LINE
- :PB Y SIGNAL LINE
- :REC Y SIGNAL LINE
- :PB CHROMA SIGNAL LINE
- :REC CHROMA SIGNAL LINE
- :PB AUDIO SIGNAL LINE
- :REC AUDIO SIGNAL LINE

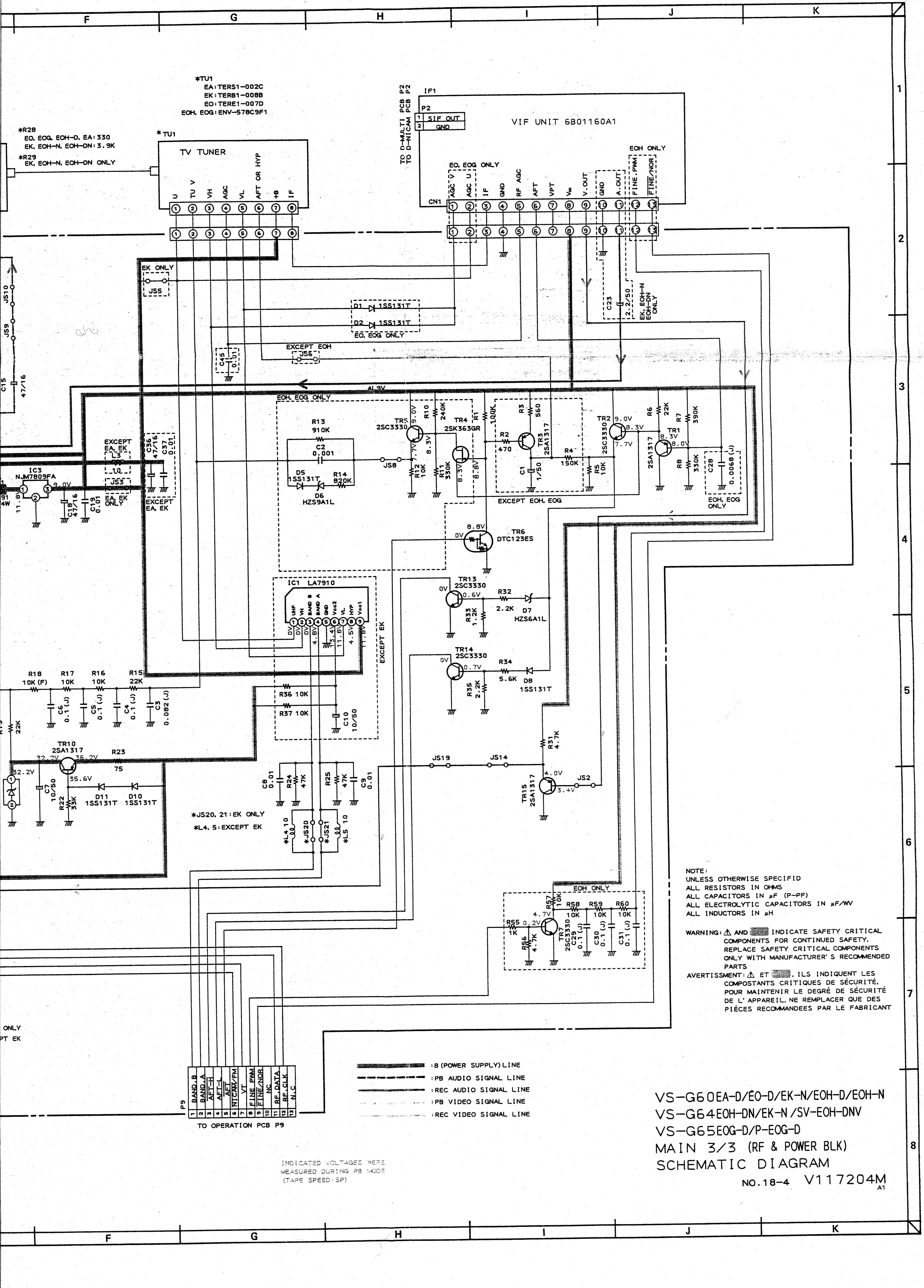
INDICATED VOLTAGES WERE MEASURED DURING PB MODE. (TAPE SPEED:SP)

AVERTISSMENT: ⚠ ET ▨, ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ, POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L' APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

VS-G60EA-D/EO-D/EK-N/EOH-D/EOH-N
VS-G64EOH-DN/EK-N/SV-EOH-DNV
VS-G65EOG-D/P-EOG-D
MAIN 2/3 (VIDEO BLK)
SCHEMATIC DIAGRAM

NO.18-3 V117203M A1

A
B
C
D
E
F
1
2
3
4
5
6
7
8
TO D-NICAM PCB P41
P41
NC
NC
EK, EOH-N
EOH-DN ONLY
*JS18
EXCEPT
EOG, SV-EOH-DNV
*P203
EOG, SV-EOH-DNV
ONLY
*P203
TO VPS OR PDC PCB WP2
1 N.C
2 N.C
3 GND
4 VPS IN
(PDC IN)
*JS18
P26
TO IN-OUT (A) PCB P27
14 V.IN
13 GND
12 V.OUT
11 GND
10 TU.L
9 GND
8 TU.R
7 GND
6 TU.V
5 TV/VCR
4 IDL.5V
3 CON.V
2 GND
1 CON.A
TO D-MULTI PCB P43
TO D-NICAM PCB P43
*P43
EOH-DN:1P-12P
EOH-N, EK:3P-13P
EOG, EA, EO, EOH-D:1P-8P
*P43
RF.DATA
RF.CLK
D.GND
AL.12V
TU.R
GND
TU.L
GND
NICAM/FM
NC
TV.MODE
AL.5V
FM MONO
R52 330
R53 330
R63 4.7K
R64 4.7K
*JS15
*JS16
R51
91K
*R63, *R64, *R65, *R66:
EOH-N, EOH-DN ONLY
*R63, *R64, *JS15, *JS16:
EXCEPT EOH-N, EOH-DN
*R66
47K
*R65
47K
*MD1
EA:YAA21-0809G
EK:ENC-879P9
EO, EOH, EOG:ENC879P8
*MD1
ANT.IN
RF OUT
RF CONVERTOR
BST +B
NC
MOD +B
AUDIO IN
VIDEO IN
*R28
EO, EOG, EOH-D, EA:330
EK, EOH-N, EOH-DN:3.9K
*R29
EK, EOH-N, EOH-DN ONLY
*TU1
C17 0.01
C16 10/16
EXCEPT EA
JS1
C14 0.01
C13 10/16
R28
R29 39K
JS10
JS9
EA ONLY
JS12
TR8
4.9V
4.8V
2SA1317
R27
6.8K
4.2V
R26
3.3K
0V
TR16
DTC144ES
4.8V
C15
47/16
EK ONLY
JS5
D.GND
TO SERVO /SYSCON PCB
V.OUT
TO MAIN PCB 2/3
V.IN
*R44
EK:1K
EXCEPT EK:2.7K
EXCEPT EK
R45 820
C24 47P
L2 82
TR22 2SC3330
11.9V
R42 910
R44
9.4V
3.2V
2.5V
2.5V
1.9V
R43 1.8K
TR21 2SC3330
R46 820
R47 1.6K
R48 1.5K
JS11
EK ONLY
EXCEPT EOG
JS17
EOG ONLY
TR20
DTC144ES
5.0V
0V
C32 0.01
TR24
DTA124TS
11.9V
0V
11.2V
R50 750
TR18 2SB1306
11.9V
C35 330/16
R49 1K
3.9V
0V
TR19
DTC143ZS
TU.P12V
C22 0.01
C21 100/16
FR1
0.91
1/4W
11.8V
IC3
NJM7809FA
9.0V
C18 47/16
C19 0.01
EXCEPT EA, EK
L3 10
JS3
EA, EK ONLY
C36 47/16
C37 0.01
EXCEPT EA, EK
EOG, SV-EOH-DNV ONLY
P1
TO VPS OR PDC PCB WP1
1 GND
2 IDL.5V
3 TU.P12V
4 TU.POW
TO SERVO/SYSCON PCB
TV MODE 57
AL.5V 58
TV/VCR 62
IDL.12V 56
IDL.5V 57
P.GND 60
GND 61
M.POWER 48
C41 0.01
TR9
2SC2668
0V
R20 1K
0.7V
R21 4.7K
R19 22K
R18 10K (F)
R17 10K
R16 10K
R15 22K
C6 0.1 (J)
C5 0.1 (J)
C4 0.1 (J)
C3 0.082 (J)
TR10
2SA1317
32.2V
36.2V
R23
75
32.2V
35.6V
IC2 L5631
C7 10/50
R22 33K
D11 1SS131T
D10 1SS131T
TO POWER SUPPLY PCB P20
WP120
1 STD.GND
2 STD.5V
3 IDL.5V
4 MAIN.GND
5 MAIN.GND
6 IDL.12V
7 MOTOR13V
8 RF.POWER
9 A.POWER
C101 10/16
D101 HZS5C3
R103 75
D102 1SS131T
R102 100K
R101 1.5K
49.8V
36.9V
TR106
2SD2012
or
2SD2394
C104 47/63
R110 36K
R111 36K
D105 1SS131T
37.4V
C105 10/50
R112 27K
D106 HZS36-3L
37.9V
0V
TR108 2SC3330
0V
11.9V
TR107 DTC115US
TR104
2SB1306
11.9V
11.9V
R108 1K
11.2V
R109 750
0V
TR110
DTA124TS
11.9V
R104 560
5.1V
5.1V
TR101
2SB1306
4.4V
5.1V
R105 150
0.1V
TR109
DTA114TS
3.9V
TR102
DTC143ZS
C102 330/6.3
TR105
DTC143ZS
0V
3.9V
C103 330/16
R106 1K
3.9V
0.6V
TR103
DTC114WS
R107 10K
D104 1SS131T
D103 1SS131T
*JS22
*L6 10
*JS22:EK ONLY
*L6:EXCEPT EK
D107
1N4002
C106 470/16
D108
1N4002
C107 470/16
MAIN PCB V1172A500A
IDL 12V
AL 12V
UNR -7V
UNR 7V
FM MONO
TO MAIN PCB 1/3
EE
PB
AL.5V
AL.9V
TO MAIN PCB 2/3
P9


F
G
H
I
J
K
1
2
3
4
5
6
7
8
*TU1
EA: TERS1-002C
EK: TERB1-008B
EO: TERE1-007D
EOH, EOG: ENV-578C9F1
*R28
EO, EOG, EOH-D, EA: 330
EK, EOH-N, EOH-DN: 3.9K
*R29
EK, EOH-N, EOH-DN ONLY
*TU1
TV TUNER
U
TU V
VH
AGC
VL
AFT OR HYP
+B
IF
TO D-MULTI PCB P2
TO D-NICAM PCB P2
IF1
P2
SIF OUT
GND
VIF UNIT 6B01160A1
EO, EOG ONLY
EOH ONLY
CN1
AGC V
AGC U
IF
GND
RF AGC
AFT
VPT
Vcc
V.OUT
GND
A.OUT
FINE.PWM
FINE/NOR
EK ONLY
JS5
JS10
JS9
D1 1SS131T
D2 1SS131T
EO, EOG ONLY
C23 2.2/50
EK, EOH-N EOH-DN ONLY
EXCEPT EOH
JS6
C45 0.01
C15 47/16
AL9V
EOH, EOG ONLY
R13 910K
C2 0.001
D5 1SS131T
R14 820K
D6 HZS9A1L
JS8
TR5 2SC3330
9.0V
7.7V
R10 240K
8.3V
R12 10K
R11 330K
TR4 2SK363GR
8.3V
8.8V
R1 100K
R2 470
R3 560
TR3 2SA1317
C1 1/50
R4 150K
R5 10K
TR2 2SC3330
9.0V
8.3V
7.7V
R6 22K
R7 390K
TR1 2SA1317
8.3V
8.0V
R8 330K
C28 0.0068 (J)
EOH, EOG ONLY
EXCEPT EOH, EOG
EXCEPT EA, EK
L3 10
JS3 EA, EK ONLY
C36 47/16
C37 0.01
EXCEPT EA, EK
IC3 NJM7809FA
9.0V
11.8V
C18 47/16
C19 0.01
8.8V
0V
TR6 DTC123ES
IC1 LA7910
UHF
VH
BAND B
BAND A
GND
Vcc2
VL
HYP
Vcc1
0V
0V
0V
4.8V
3.4V
11.8V
4.5V
11.8V
EXCEPT EK
TR13 2SC3330
0V
0.6V
R32 2.2K
D7 HZS6A1L
R33 1.2K
TR14 2SC3330
0V
0.7V
R34 5.6K
D8 1SS131T
R35 2.2K
R18 10K (F)
R17 10K
R16 10K
R15 22K
C6 0.1 (J)
C5 0.1 (J)
C4 0.1 (J)
C3 0.082 (J)
R36 10K
R37 10K
C10 10/50
R19 22K
TR10 2SA1317
32.2V
36.2V
R23 75
32.2V
35.6V
C7 10/50
R22 33K
D11 1SS131T
D10 1SS131T
C8 0.01
R24 47K
R25 47K
C9 0.01
JS19
JS14
R31 4.7K
4.0V
JS2
TR15 2SA1317
3.4V
*JS20, 21: EK ONLY
*L4, 5: EXCEPT EK
*L4 10
*JS20
*JS21
*L5 10
EOH ONLY
R57 10K
R58 10K
R59 10K
R60 10K
4.7V
R55 1K
0.2V
R56 4.7K
TR7 2SC3330
C29 0.1 (J)
C30 0.1 (J)
C31 0.1 (J)
ONLY
EXCEPT EK
P9
BAND.B
BAND.A
AFT-H
AFT-L
AFT
NICAM/FM
VT
FINE.PWM
FINE/NOR
NC
RF.DATA
RF.CLK
N.C
TO OPERATION PCB P9

NOTE:
UNLESS OTHERWISE SPECIFID
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μF (P-PF)
ALL ELECTROLYTIC CAPACITORS IN μF/WV
ALL INDUCTORS IN μH

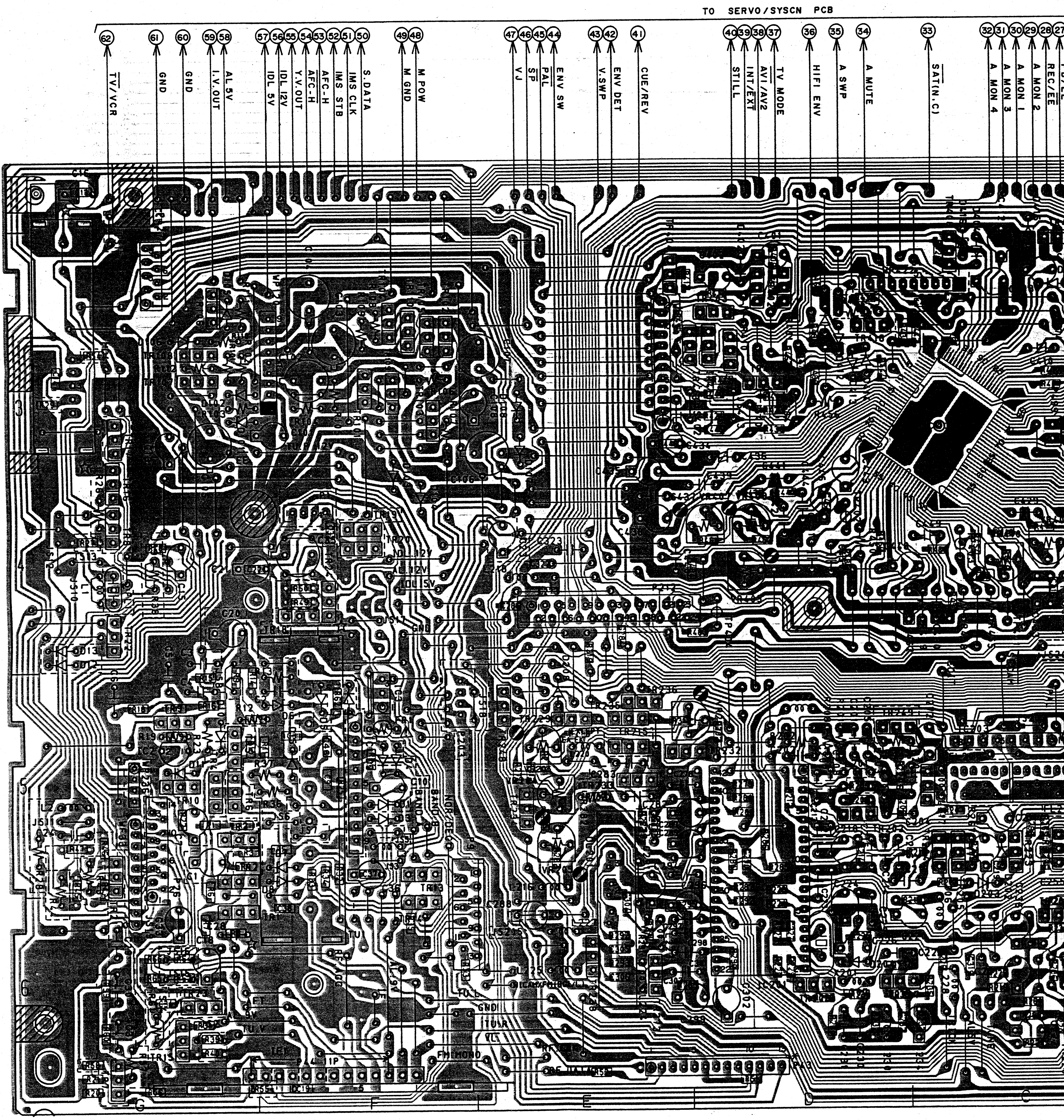
WARNING: ⚠ AND ▨ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSMENT: ⚠ ET ▨, ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

━━━ :B (POWER SUPPLY) LINE
— — — :PB AUDIO SIGNAL LINE
——— :REC AUDIO SIGNAL LINE
- - - :PB VIDEO SIGNAL LINE
- - - :REC VIDEO SIGNAL LINE

INDICATED VOLTAGES WERE
MEASURED DURING PB MODE
(TAPE SPEED: SP)

VS-G60EA-D/EO-D/EK-N/EOH-D/EOH-N
VS-G64EOH-DN/EK-N/SV-EOH-DNV
VS-G65EOG-D/P-EOG-D
MAIN 3/3 (RF & POWER BLK)
SCHEMATIC DIAGRAM
NO.18-4 V117204M
A1


TO SERVO/SYSCN PCB
(62) $\overline{TV}$/VCR
(61) GND
(60) GND
(59) I.V.OUT
(58) AL 5V
(57) IDL 5V
(56) IDL 12V
(55) Y.V.OUT
(54) $\overline{AFC-H}$
(53) AFC-H
(52) IMS STB
(51) IMS CLK
(50) S.DATA
(49) M GND
(48) M POW
(47) V.J
(46) $\overline{SP}$
(45) $\overline{PAL}$
(44) ENV SW
(43) V.SWP
(42) ENV DET
(41) CUE/REV
(40) STILL
(39) INT/$\overline{EXT}$
(38) $\overline{AV1}$/AV2
(37) TV MODE
(36) HIFI ENV
(35) A SWP
(34) A MUTE
(33) $\overline{SAT}$(N.C)
(32) A MON 4
(31) A MON 3
(30) A MON 1
(29) A MON 2
(28) REC/$\overline{EE}$
(27)
P43

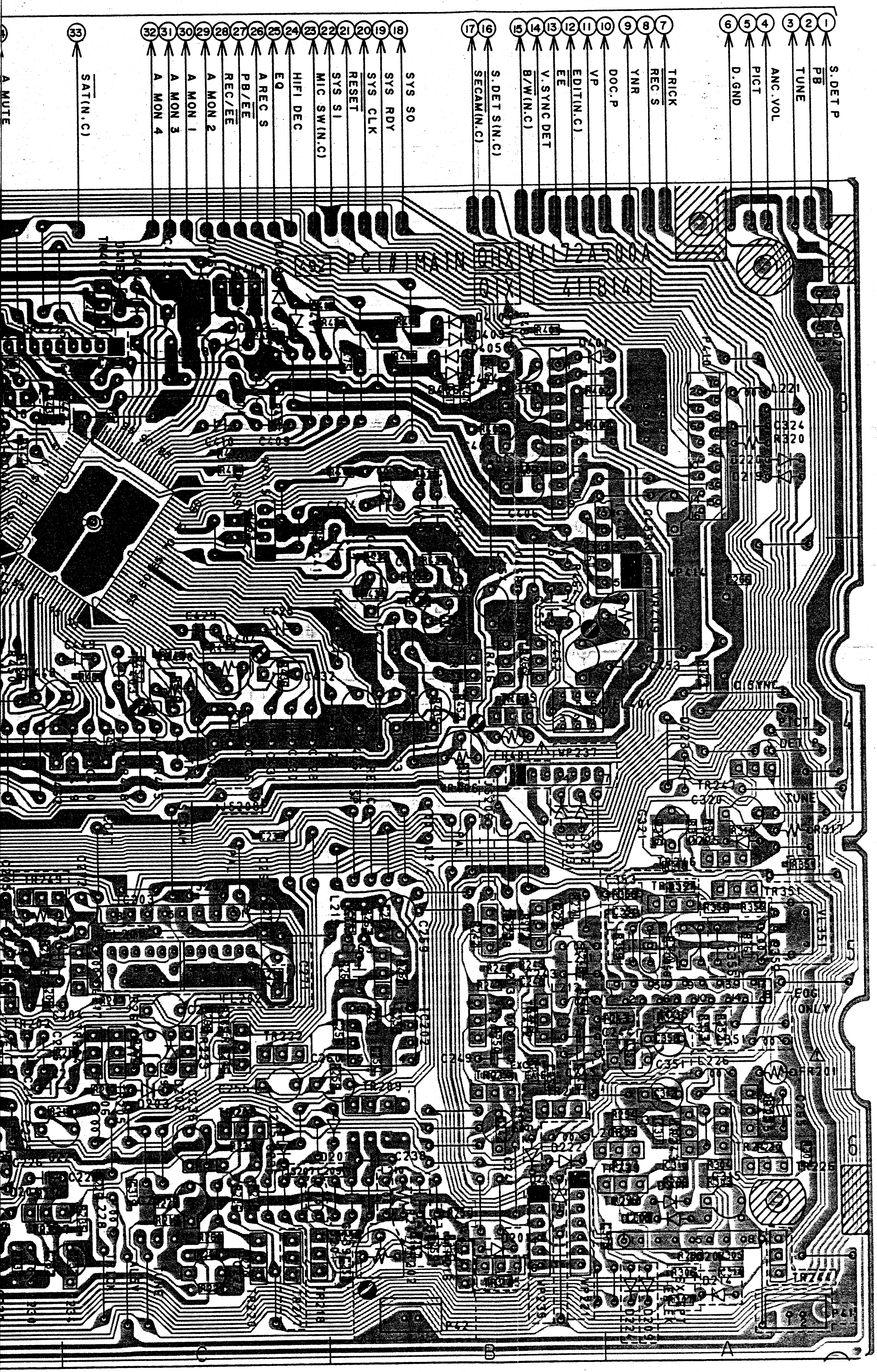
MAIN PCB V1172A500A

* P43 1P~ 12P : EOH-DN
3P~ 13P : EOH-N ,
1P~ 8P : EOG , EA

WA

AV

N


33 SAT(N.C)
32 A MON 4
31 A MON 3
30 A MON 1
29 A MON 2
28 REC/EE
27 PB/EE
26 A REC S
25 EQ
24 HIFI DEC
23 MIC SW(N.C)
22 SYS SI
21 RESET
20 SYS CLK
19 SYS RDY
18 SYS SO
17 SECAM(N.C)
16 S.DET S(N.C)
15 B/W(N.C)
14 V.SYNC DET
13 EE
12 EDIT(N.C)
11 VP
10 DOC.P
9 YNR
8 REC S
7 TRICK
6 D.GND
5 PICT
4 ANC.VOL
3 TUNE
2 PB
1 S.DET P
A MUTE
A
B
C
3
4
5
6

✻ P43 1P～ 12P : EOH-DN, SV-EOH-DNV
3P～ 13P : EOH-N, EK-N
1P～ 8P : EOG, EA, EO, EOH-D

PRINCIPAL PARTS LOCATION

ICs

IC1	F5
IC2	G5
IC3	F5
IC201	D5,6
IC202	B5
IC203	C5
IC204	A6
IC351	A5
IC401	B3
IC402	A3,4
IC403	C3,4

WF & WPs

WP120	F3
WP415	C3
WP422	C3

CONNECTORs

P1	F4
P9	F5,6
P26	G5
P41	A6
P43	D,E6
P203	F5
P212	E4
P410	A3
P427	G3
P499	C3

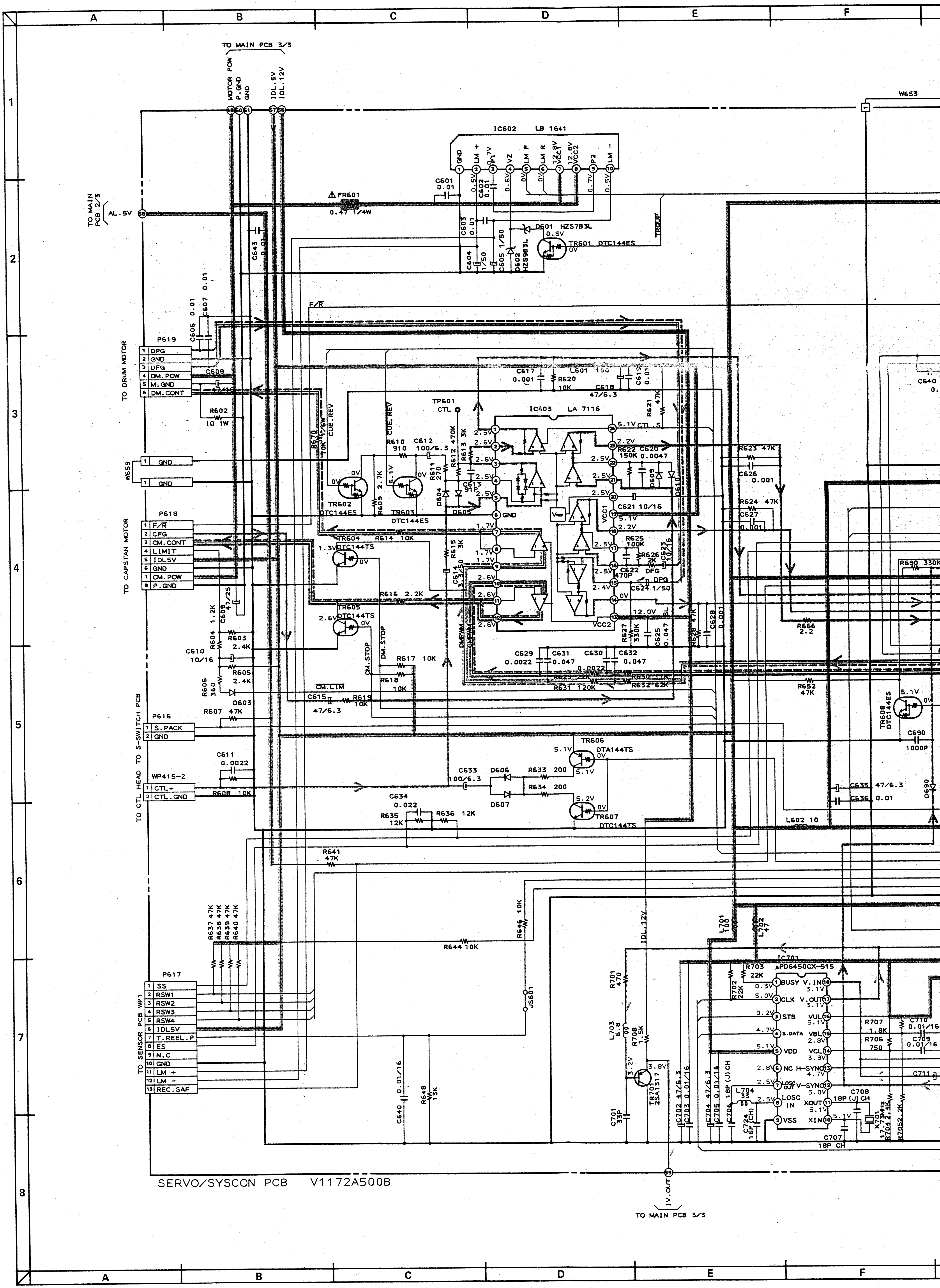
TRANSISTORs

TR1	G6
TR2	G5
TR3	G5
TR4	G5
TR5	G5
TR6	G5
TR7	G6
TR8	G4
TR9	G5
TR10	G5
TR13	F5
TR14	F6
TR15	G6
TR16	G4
TR17	G3
TR18	F4
TR19	F4
TR20	F4
TR21	G5
TR22	G4
TR23	G6
TR24	F4
TR101	F3
TR102	F3
TR103	F3
TR104	F3
TR105	F3
TR106	G3
TR107	G3
TR108	G3
TR109	F3
TR110	F3
TR201	C5
TR202	D5
TR204	C5
TR205	C5
TR206	D6
TR207	D6
TR208	C6
TR209	B6
TR211	B6
TR212	B5
TR213	B5
TR214	B5,6
TR215	E5
TR218	C6
TR220	C6
TR221	B5
TR222	C5
TR223	C5
TR224	C5
TR225	A6
TR226	A6
TR227	B5
TR228	B5
TR229	E5
TR232	D,E5
TR233	E5
TR234	E5
TR235	E5
TR236	E5
TR238	E6
TR239	A6
TR240	A6
TR242	A6
TR243	A6
TR246	A5
TR247	A4
TR248	E5
TR273	E6
TR351	A5
TR352	A5
TR401	D3
TR402	D3
TR403	D3
TR404	E3
TR407	C3
TR408	C3
TR409	B5
TR410	D3
TR411	D3
TR412	D3
TR413	D3
TR414	B5
TR415	B5
TR416	B5
TR418	D3

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

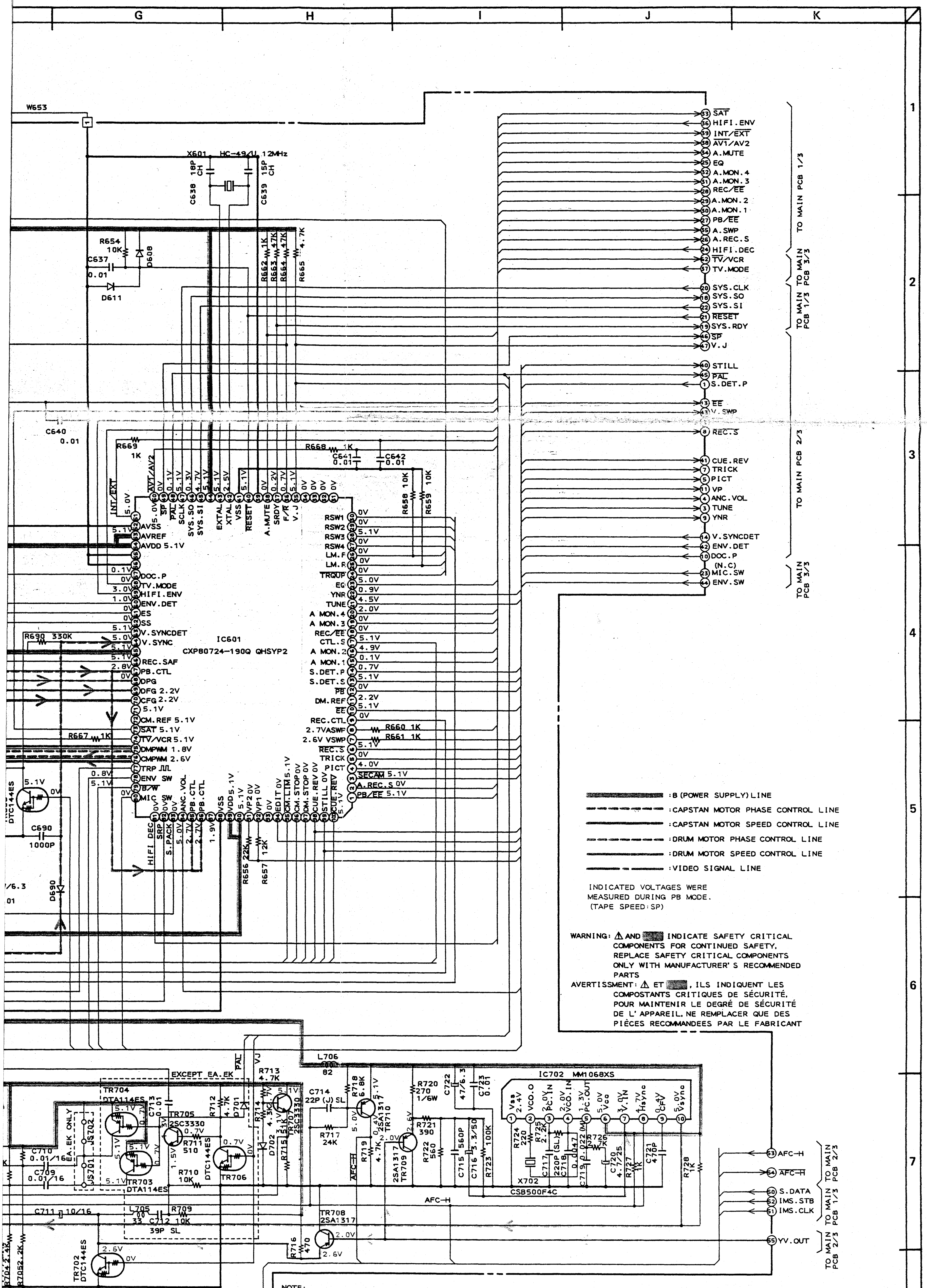
AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER. REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT PARTS INFORMATION.



SERVO/SYSCON PCB V1172A500B

TO MAIN PCB 3/3
MOTOR POW
P.GND
GND
IDL.5V
IDL.12V
W653
IC602 LB 1641
GND
LM +
P1
VZ
LM F
LM R
VCC1
VCC2
P2
LM -
C601 0.01
C602 0.01
FR601
0.47 1/4W
TO MAIN PCB 2/3
AL.5V
C603 0.01
C604 1/50
C605 1/50
D601 HZS7B3L
D602 HZS9B3L
TR601 DTC144ES
TROUP
C643 0.01
C606 0.01
C607 0.01
F/R
P619
DPG
GND
DFG
DM.POW
M.GND
DM.CONT
TO DRUM MOTOR
C608
47/16
R602 1Ω 1W
C617 0.001
L601 100
R620 10K
C618 47/6.3
C619
C640
R621 47K
IC603 LA 7116
TP601 CTL
R670 10K 1/6W
CUE.REV
R610 910
C612 100/6.3
R612 470K
R613 3K
R611 270
TR602 DTC144ES
R609 2.7K
TR603 DTC144ES
D604
C613 91P
D605
R622 150K
C620 0.0047
D609
D610
C621 10/16
R623 47K
C626 0.001
R624 47K
C627 0.001
W659
GND
P618
CFG
CM.CONT
LIMIT
IDL5V
CM.POW
P.GND
TO CAPSTAN MOTOR
TR604 DTC144TS
R614 10K
R615 3K
C614 3.3/50
R625 100K
R626 2K
C623 10/16
C622 470P
DFG
DPG
C624 1/50
VCC2
VCC1
R690 330K
C609 47/25
R616 2.2K
TR605 DTC144TS
R604 1.2K
R603 2.4K
C610 10/16
R605 2.4K
R606 360
D603
CM.STOP
DM.STOP
DMPWM
CMPWM
R617 10K
R618 10K
R627 330K
C625 0.047
R628 47K
C628 0.001
R666 2.2
C629 0.0022
C631 0.047
C630 0.0022
C632 0.047
R629 22K
R630 12K
R631 120K
R632 82K
R652 47K
CM.LIM
C615 47/6.3
R619 10K
R607 47K
TR608 DTC144ES
P616
S.PACK
GND
TO S-SWITCH PCB
C690 1000P
TR606 DTA144TS
C611 0.0022
C633 100/6.3
D606
D607
R633 200
R634 200
WP415-2
CTL+
CTL.GND
R608 10K
TO CTL HEAD
C635 47/6.3
C636 0.01
D690
C634 0.022
R635 12K
R636 12K
TR607 DTC144TS
L602 10
R641 47K
R637 47K
R638 47K
R639 47K
R640 47K
R644 10K
R646 10K
IDL.12V
L701 100
L702 47
IC701 μPD6450CX-515
R701 470
R703 22K
R702 22K
BUSY
V.IN
CLK
V.OUT
STB
VUL
S.DATA
VBL
VDD
VCL
NC
H-SYNC
LOSC OUT
V-SYNC
LOSC IN
XOUT
VSS
XIN
R707 1.8K
R706 750
C710 0.01/16
C709 0.01/16
C711
P617
SS
RSW1
RSW2
RSW3
RSW4
IDL5V
T.REEL.P
ES
N.C
GND
LM +
LM -
REC.SAF
TO SENSOR PCB WP1
JS601
L703 6.8
R708 1.5K
TR701 2SA1317
C701 33P
C702 47/6.3
C703 0.01/16
C704 47/6.3
C705 0.01/16
C706 18P (J) CH
L704 33
C724 16P (CH)
C708 18P (J) CH
X701 17.734MHz
R704 2.2K
R705 2.2K
C707 18P CH
C640 0.01/16
R648 13K
IV.OUT
TO MAIN PCB 3/3
A
B
C
D
E
F
1
2
3
4
5
6
7
8


G
H
I
J
K
1
2
3
4
5
6
7
8
W653
X601 HC-49/U 12MHz
C638 18P CH
C639 15P CH
R654 10K
C637 0.01
D608
D611
R662 1K
R663 47K
R664 47K
R665 4.7K
C640 0.01
R669 1K
R668 1K
C641 0.01
C642 0.01
R658 10K
R659 10K
IC601
CXP80724-190Q QHSYP2
INT/EXT
AV1/AV2
SP
PAL
SCLK
SYS.SO
SYS.SI
EXTAL
XTAL
VSS
RESET
A.MUTE
SRDY
F/R
V.J
AVSS
AVREF
AVDD 5.1V
DOC.P
TV.MODE
HIFI.ENV
ENV.DET
ES
SS
V.SYNCDET
V.SYNC
REC.SAF
PB.CTL
DPG
DFG 2.2V
CFG 2.2V
CM.REF 5.1V
SAT 5.1V
TV/VCR 5.1V
DMPWM 1.8V
CMPWM 2.6V
TRP
ENV SW
B/W
MIC SW
RSW1
RSW2
RSW3
RSW4
LM.F
LM.R
TRQUP
EQ
YNR
TUNE
A MON.4
A MON.3
REC/EE
CTL.S
A MON.2
A MON.1
S.DET.P
S.DET.S
PB
DM.REF
EE
REC.CTL
2.7VASWF
2.6V VSWP
REC.S
TRICK
PICT
SECAM 5.1V
A.REC.S 0V
PB/EE 5.1V
R660 1K
R661 1K
R690 330K
R667 1K
HIFI DEC
SRP
S.PACK
ANC.VOL
PB.CTL
VSS
VDD
VP2
VP1
EDIT
CM.LIM
CM.STOP
DM.STOP
CUE.REV
STILL
R656 22K
R657 12K
DTC144ES
C690 1000P
D690
SAT
HIFI.ENV
INT/EXT
AV1/AV2
A.MUTE
EQ
A.MON.4
A.MON.3
REC/EE
A.MON.2
A.MON.1
PB/EE
A.SWP
A.REC.S
HIFI.DEC
TV/VCR
TV.MODE
SYS.CLK
SYS.SO
SYS.SI
RESET
SYS.RDY
SP
V.J
STILL
PAL
S.DET.P
EE
V.SWP
REC.S
CUE.REV
TRICK
PICT
VP
ANC.VOL
TUNE
YNR
V.SYNCDET
ENV.DET
DOC.P
(N.C)
MIC.SW
ENV.SW
TO MAIN PCB 1/3
TO MAIN PCB 3/3
TO MAIN PCB 1/3 PCB 3/3
TO MAIN PCB 2/3
TO MAIN PCB 3/3
EXCEPT EA.EK
EA.EK ONLY
JS702
JS701
TR704 DTA114ES
TR703 DTA114ES
TR705 2SC3330
TR706 DTC144ES
TR707 2SC3330
TR702 DTC144ES
TR708 2SA1317
TR709 2SA1317
TR710 2SA1317
C710 0.01/16
C709 0.01/16
C711 10/16
C713 0.01
R711 510
R710 10K
R712 4.7K
D701
D702
R713 4.7K
R714
R715 51K
L705 33
C712 39P SL
R709 10K
L706 82
C714 22P (J) SL
R717 24K
R718 6.8K
R719 4.7K
R716 470
R720 270 1/6W
R721 390
R722 560
C715 560P
C716 3.3/50
R723 100K
C722 47/6.3
C723 0.01
IC702 MM1068XS
R724 220
R725 2.2K
C717 220P (SL)
C718 0.047
C719 0.022 (M)
R726 7K
C720 4.7/25
R727 1K
C721 470P
R728 1K
X702 CSB500F4C
AFC-H
AFC-H
S.DATA
IMS.STB
IMS.CLK
YV.OUT
TO MAIN PCB 1/3
TO MAIN PCB 2/3
PAL
VJ

▬▬▬ : B (POWER SUPPLY) LINE
— — — : CAPSTAN MOTOR PHASE CONTROL LINE
——— : CAPSTAN MOTOR SPEED CONTROL LINE
— - — : DRUM MOTOR PHASE CONTROL LINE
——— : DRUM MOTOR SPEED CONTROL LINE
— · — : VIDEO SIGNAL LINE

INDICATED VOLTAGES WERE
MEASURED DURING PB MODE.
(TAPE SPEED: SP)

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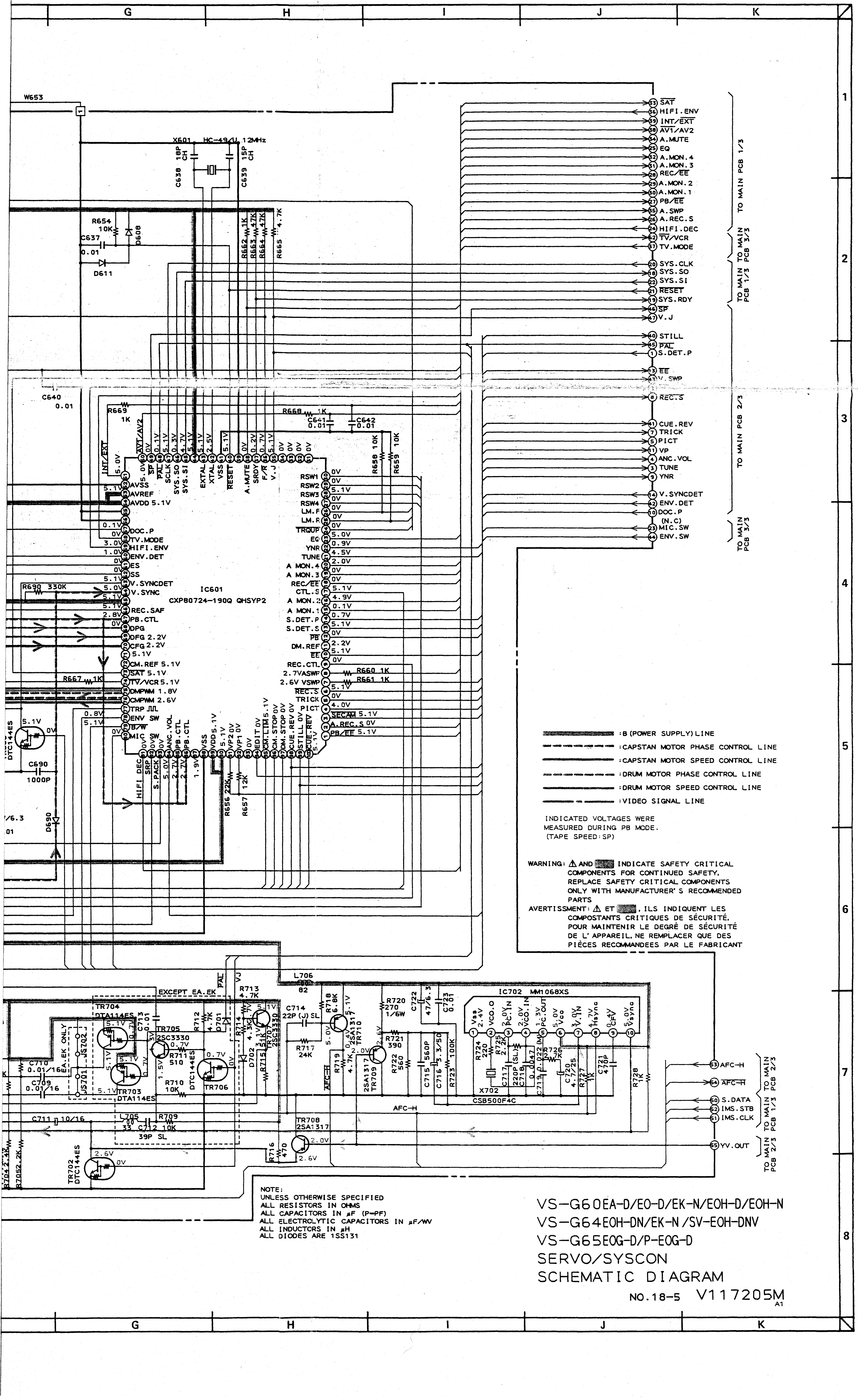
NOTE:
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μF (P=PF)
ALL ELECTROLYTIC CAPACITORS IN μF/WV
ALL INDUCTORS IN μH
ALL DIODES ARE 1SS131

VS-G60EA-D/EO-D/EK-N/EOH-D/EOH-N
VS-G64EOH-DN/EK-N/SV-EOH-DNV
VS-G65EOG-D/P-EOG-D
SERVO/SYSCON
SCHEMATIC DIAGRAM

NO.18-5 V117205M A1


G
H
I
J
K
1
2
3
4
5
6
7
8
W653
X601 HC-49/U 12MHz
C638 18P CH
C639 15P CH
R654 10K
C637 0.01
D608
D611
R662 1K
R663 47K
R664 47K
R665 4.7K
C640 0.01
R669 1K
R668 1K
C641 0.01
C642 0.01
R658 10K
R659 10K
IC601
CXP80724-190Q QHSYP2
R690 330K
R667 1K
R660 1K
R661 1K
R656 22K
R657 12K
DTC144ES
C690 1000P
D690
33 SAT
36 HIFI.ENV
39 INT/EXT
38 AV1/AV2
34 A.MUTE
25 EQ
32 A.MON.4
31 A.MON.3
28 REC/EE
29 A.MON.2
30 A.MON.1
27 PB/EE
35 A.SWP
26 A.REC.S
24 HIFI.DEC
62 TV/VCR
37 TV.MODE
TO MAIN PCB 1/3
TO MAIN PCB 3/3
20 SYS.CLK
18 SYS.SO
22 SYS.SI
21 RESET
19 SYS.RDY
TO MAIN PCB 1/3
46 SP
47 V.J
40 STILL
45 PAL
1 S.DET.P
13 EE
43 V.SWP
8 REC.S
41 CUE.REV
7 TRICK
5 PICT
11 VP
4 ANC.VOL
3 TUNE
9 YNR
14 V.SYNCDET
42 ENV.DET
10 DOC.P
(N.C)
23 MIC.SW
64 ENV.SW
TO MAIN PCB 2/3
TO MAIN PCB 3/3
L706 82
EXCEPT EA.EK
PAL
VJ
R713 4.7K
TR704 DTA114ES
C713 0.01
TR705 2SC3330
R712 4.7K
D701
R714 4.7K
TR707 2SC3330
R715 51K
D702
R711 510
R710 10K
DTC144ES TR706
TR703 DTA114ES
EA.EK ONLY
JS702
JS701
C710 0.01/16
C709 0.01/16
C711 10/16
L705 33
C712 39P SL
R709 10K
TR702 DTC144ES
C714 22P (J) SL
R718 6.8K
TR710 2SA1317
R717 24K
R719 4.7K
TR709 2SA1317
R720 270 1/6W
R721 390
R722 560
C715 560P
C716 3.3/50
C722 47/6.3
C723 0.01
R723 100K
IC702 MM1068XS
R724 220
R725 2.2K
X702 CSB500F4C
C717 220P (SL)
C718
C719 0.022 (M)
C720 4.7/25
R726 47K
R727 1K
C721 470P
R728 1K
AFC-H
TR708 2SA1317
R716 470
53 AFC-H
54 AFC-H
60 S.DATA
52 IMS.STB
51 IMS.CLK
TO MAIN PCB 1/3
55 YV.OUT
TO MAIN PCB 2/3

: B (POWER SUPPLY) LINE
: CAPSTAN MOTOR PHASE CONTROL LINE
: CAPSTAN MOTOR SPEED CONTROL LINE
: DRUM MOTOR PHASE CONTROL LINE
: DRUM MOTOR SPEED CONTROL LINE
: VIDEO SIGNAL LINE

INDICATED VOLTAGES WERE
MEASURED DURING PB MODE.
(TAPE SPEED: SP)

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NOTE:
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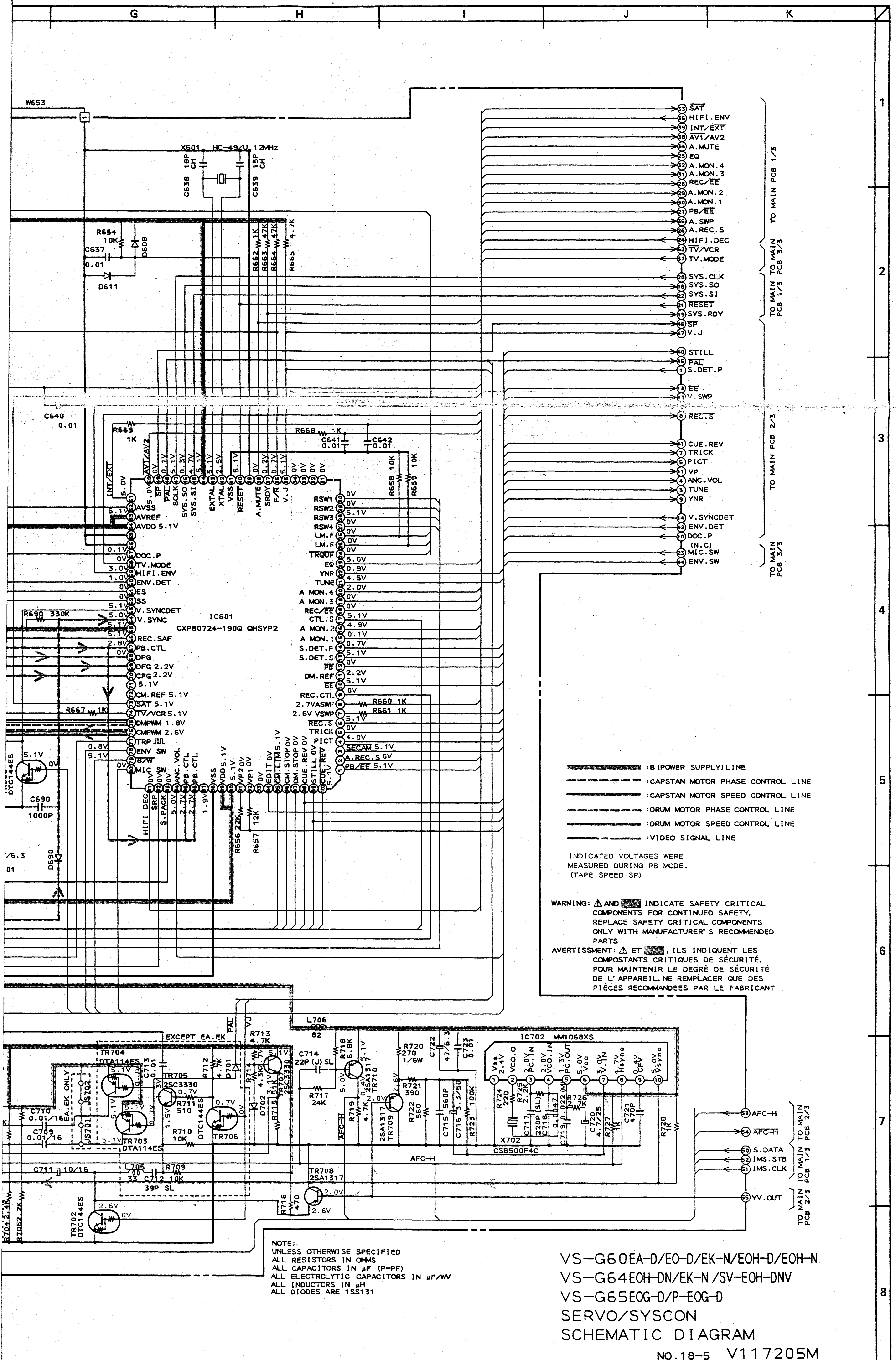
ALL ELECTROLYTIC CAPACITORS IN µF/WV
ALL INDUCTORS IN µH
ALL DIODES ARE 1SS131

VS-G60EA-D/EO-D/EK-N/EOH-D/EOH-N
VS-G64EOH-DN/EK-N/SV-EOH-DNV
VS-G65EOG-D/P-EOG-D
SERVO/SYSCON
SCHEMATIC DIAGRAM

NO.18-5 V117205M A1


G
H
I
J
K
1
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4
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6
7
8
W653
X601 HC-49/U 12MHz
C638 18P CH
C639 15P CH
R654 10K
C637 0.01
D608
D611
R662 1K
R663 4.7K
R664 4.7K
R665 4.7K
C640 0.01
R669 1K
R668 1K
C641 0.01
C642 0.01
R658 10K
R659 10K
IC601 CXP80724-190Q QHSYP2
R690 330K
R667 1K
R660 1K
R661 1K
R656 22K
R657 12K
C690 1000P
D690
SAT
HIFI.ENV
INT/EXT
AV1/AV2
A.MUTE
EQ
A.MON.4
A.MON.3
REC/EE
A.MON.2
A.MON.1
PB/EE
A.SWP
A.REC.S
HIFI.DEC
TV/VCR
TV.MODE
SYS.CLK
SYS.SO
SYS.SI
RESET
SYS.RDY
SP
V.J
STILL
PAL
S.DET.P
EE
V.SWP
REC.S
CUE.REV
TRICK
PICT
VP
ANC.VOL
TUNE
YNR
V.SYNCDET
ENV.DET
DOC.P
(N.C)
MIC.SW
ENV.SW
TO MAIN PCB 1/3
TO MAIN PCB 3/3
TO MAIN PCB 1/3
TO MAIN PCB 2/3
TO MAIN PCB 3/3
L706 82
R713 4.7K
R718 6.8K
C714 22P (J) SL
R717 24K
R719 4.7K
R720 270 1/6W
R721 390
R722 560
C715 560P
C716 3.3/50
R723 100K
C722 47/6.3
C723 0.01
IC702 MM1068XS
X702 CSB500F4C
R724 220
R725 2.2K
C717 220P (SL)
C718 0.0047 (M)
C719 0.022 (M)
R726 7.5K
C720 4.7/25
R727 1K
C721 47P
R728 1K
TR704 DTA114ES
TR703 DTA114ES
TR705 2SC3330
TR706 DTC144ES
TR707 2SC3330
TR709 2SA1317
TR710 2SA1317
TR708 2SA1317
TR702 DTC144ES
C713 0.01
R712 4.7K
D701
D702
R714 2K
R715 5.1K
R711 510
R710 10K
R716 470
EXCEPT EA.EK
EA.EK ONLY
JS701
JS702
C710 0.01/16
C709 0.01/16
C711 10/16
L705 33
C712 39P SL
R709 10K
AFC-H
AFC-H
S.DATA
IMS.STB
IMS.CLK
YV.OUT
TO MAIN PCB 2/3
TO MAIN PCB 1/3
TO MAIN PCB 2/3

▬ :B (POWER SUPPLY) LINE
–·–·– :CAPSTAN MOTOR PHASE CONTROL LINE
—— :CAPSTAN MOTOR SPEED CONTROL LINE
–··– :DRUM MOTOR PHASE CONTROL LINE
—— :DRUM MOTOR SPEED CONTROL LINE
–·– :VIDEO SIGNAL LINE

INDICATED VOLTAGES WERE MEASURED DURING PB MODE. (TAPE SPEED: SP)

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ALL INDUCTORS IN µH
ALL DIODES ARE 1SS131

VS-G60EA-D/EO-D/EK-N/EOH-D/EOH-N
VS-G64EOH-DN/EK-N/SV-EOH-DNV
VS-G65EOG-D/P-EOG-D
SERVO/SYSCON
SCHEMATIC DIAGRAM

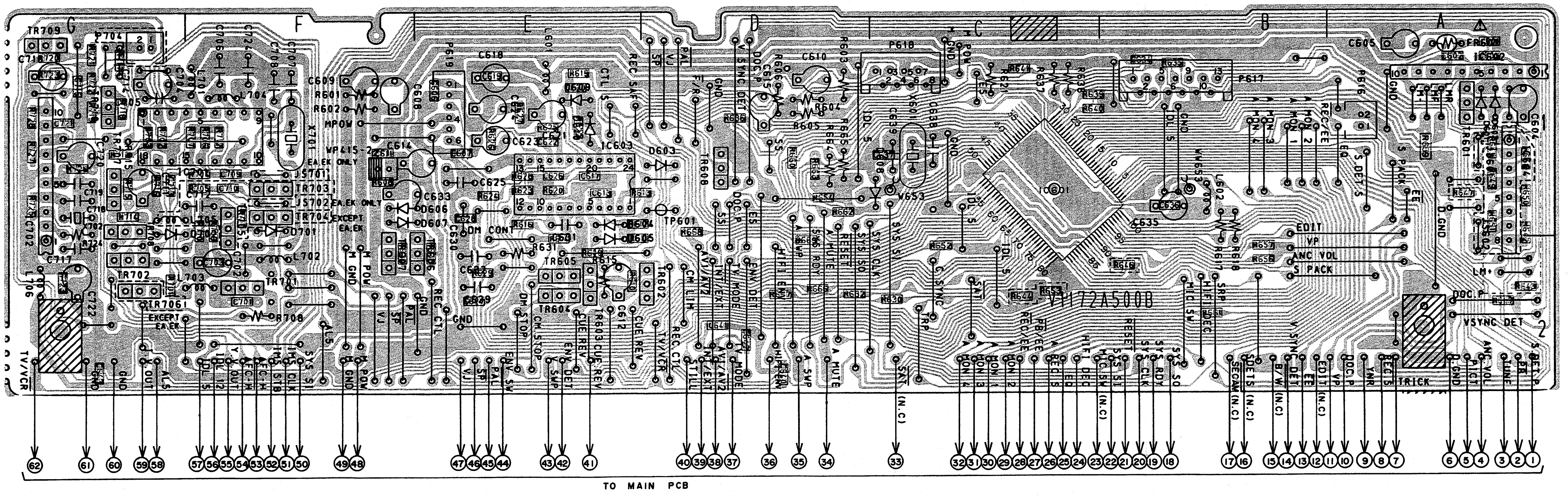
NO.18-5 V117205M A1

PRINCIPAL PARTS LOCATION

ICs	
IC601	C1
IC602	A1
IC603	E1
IC701	F,G1
IC702	G1

CONNECTORs	
P616	A1
P617	B1
P618	C1
P619	E1

TRANSISTORs			
TR601	A1	TR704	F1
TR602	D,E2	TR705	F1
TR603	E2	TR706	G2
TR604	E2	TR707	G1
TR605	E2	TR708	G1
TR606	E2	TR709	G1
TR607	F2	TR710	G1
TR608	D1		
TR701	F2		
TR702	G2		
TR703	F1		


G
F
E
D
C
B
A
1
2
IC601
IC603
IC701
IC702
P617
P618
P619
X601
X701
V1172A500B
TV/VCR
GND
A OUT
ALS
SYS SI
SYS CLK
M GND
M POW
VJ
SP
PAL
ENV SW
SWP
ENV DET
CUE REV
A MUTE
SAT (N.C)
RESET
EDIT
VP
ANC VOL
S PACK
VSYNC DET
DOC P
TRICK
LINE
P.DET
TO MAIN PCB

SERVO/SYSCON PCB V1172A500B

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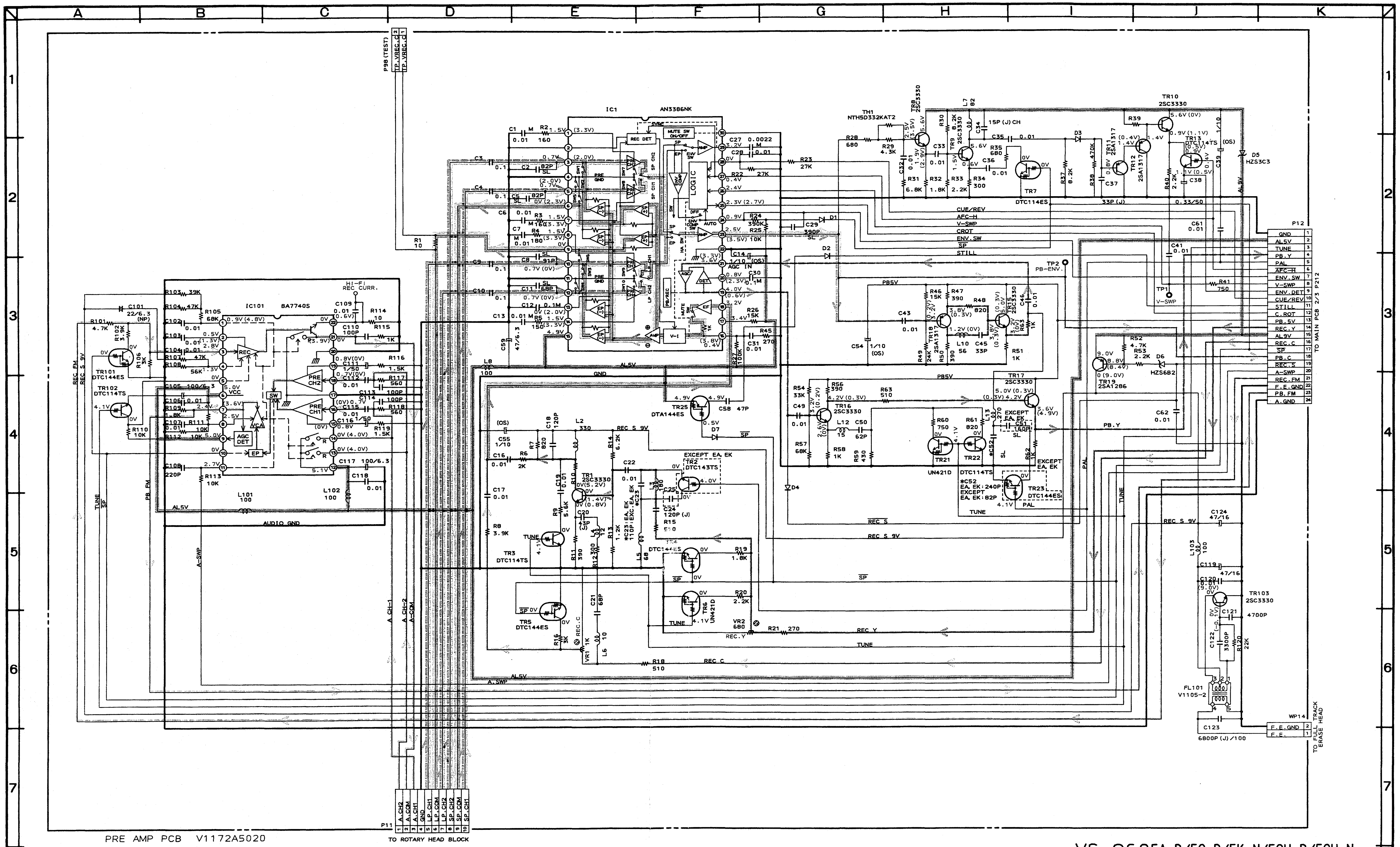

IC1 AN3386NK
IC101 BA7740S
HI-FI REC CURR.
P98 (TEST)
TP VREC.C2
TP VREC.C1
TH1 NTH5D332KAT2
TR8 2SC3330
TR9 2SC3330
TR7 DTC114ES
TR10 2SC3330
TR11 2SA1317
TR12 2SA1317
TR13 DTC114TS
D5 HZS3C3
TR15 2SC3330
TR18 2SA1317
TR16 2SC3330
TR17 2SC3330
TR19 2SA1286
D6 HZS6B2
TR21 UN421D
TR22 DTC114TS
TR23 DTC144ES
TR25 DTA144ES
TR1 2SC3330
TR2 DTC143TS
TR3 DTC114TS
TR4 DTC144ES
TR5 DTC144ES
TR6 UN421D
TR101 DTC144ES
TR102 DTC114TS
TR103 2SC3330
FL101 V1105-2
TP1 V-SWP
TP2 PB-ENV.
P12
1 GND
2 AL5V
3 TUNE
4 PB.Y
5 PAL
6 AFC-H
7 ENV.SW
8 V-SWP
9 ENV.DET
10 CUE/REV
11 STILL
12 C.ROT
13 PB.5V
14 REC.Y
15 AL9V
16 REC.C
17 SP
18 PB.C
19 REC.S
20 A-SWP
21 REC.FM
22 F.E.GND
23 PB.FM
24 A.GND
TO MAIN PCB 2/3 P212
WP14
2 F.E.GND
1 F.E.
TO FULL TRACK ERASE HEAD
P11
1 A.CH2
2 A.COM
3 A.CH1
4 GND
5 LP.CH1
6 LP.COM
7 LP.CH2
8 SP.CH2
9 SP.COM
10 SP.CH1
TO ROTARY HEAD BLOCK
AUDIO GND
AL5V
GND
REC S 9V
A.SWP

PRE AMP PCB V1172A5020

▬▬▬ : B (POWER SUPPLY) LINE

▬▬▬ : PB Y SIGNAL LINE

▬▬▬ : REC Y SIGNAL LINE

▬▬▬ : PB CHROMA SIGNAL LINE

▬▬▬ : REC CHROMA SIGNAL LINE

▬▬▬ : PB AUDIO SIGNAL LINE

▬▬▬ : REC AUDIO SIGNAL LINE

INDICATED VOLTAGES WERE
MEASURED DURING PB MODE.
( ) : REC MODE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN µF
ALL DIODES ARE 1SS131T
ALL INDUCTORS IN µH

VS-G60EA-D/EO-D/EK-N/EOH-D/EOH-N
VS-G64EOH-DN/EK-N/SV-EOH-DNV
VS-G65EOG-D/P-EOG-D
PRE AMP
SCHEMATIC DIAGRAM
NO.18-6 V117206M
A1

PRINCIPAL PARTS LOCATION

ICs

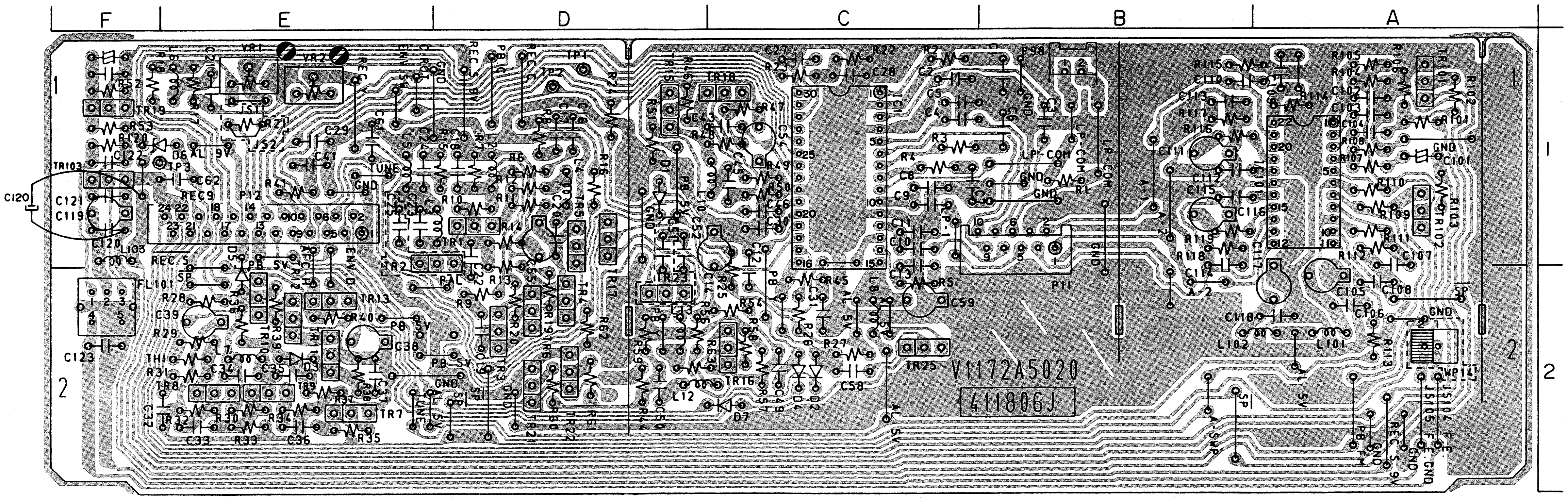
IC1	C1
IC101	A1

CONNECTORs

P11	B1
P12	E1
P98	B1

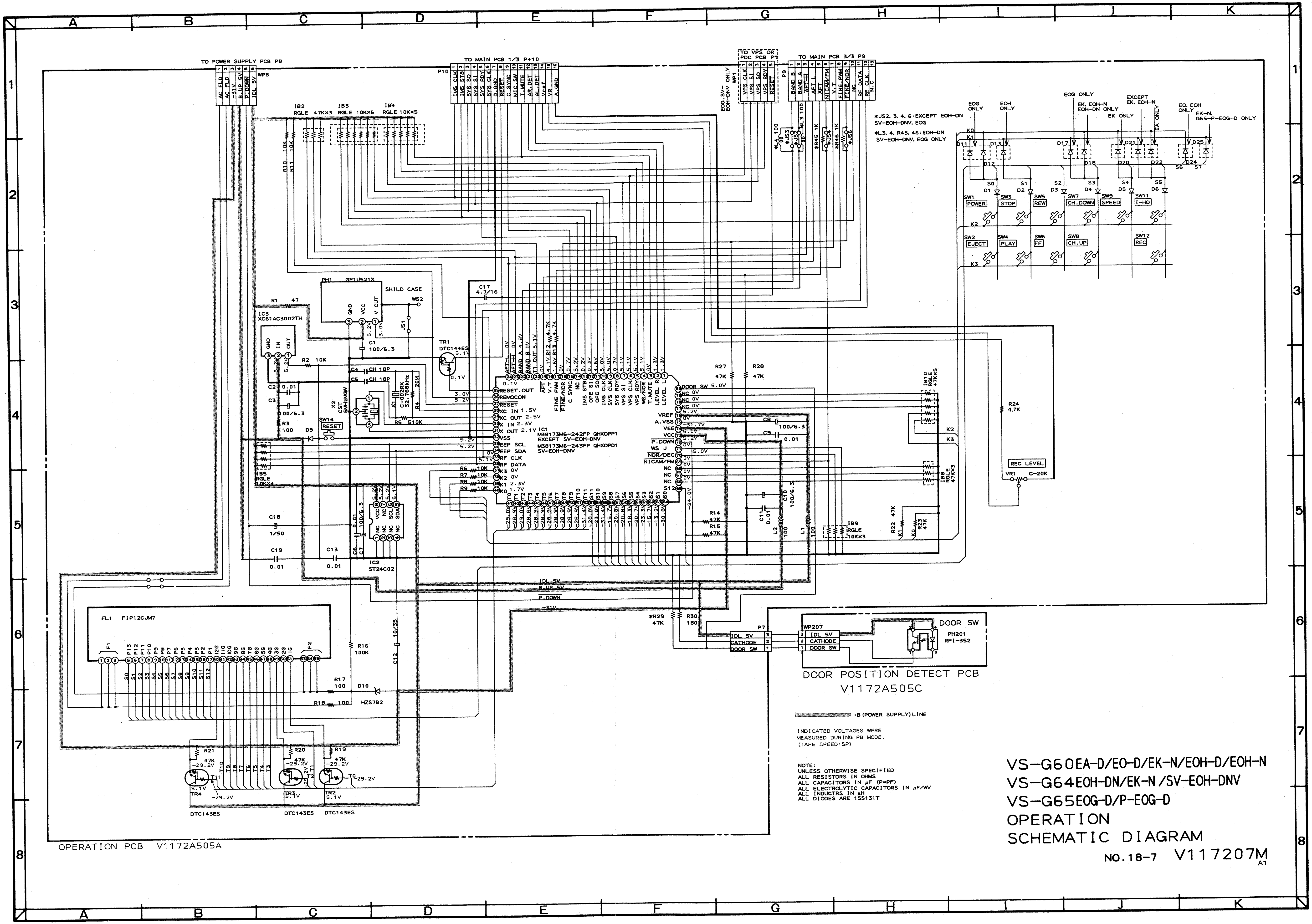
TRANSISTORs

TR1	D1
TR2	D,E1
TR3	D2
TR4	D2
TR5	D1
TR6	D2
TR7	E2
TR8	E2
TR9	E2
TR10	E2
TR11	E2
TR12	E2
TR13	E2
TR15	D1
TR16	C2
TR17	D1
TR18	C1
TR19	F1
TR21	D2
TR22	D2
TR23	D2
TR24	D2
TR25	C2
TR101	A1
TR102	A1
TR103	F1


F
E
D
C
B
A
1
2
V1172A5020
411806J
P11
P12
P98
IC1
TR25
C120
C121
C119

PRE AMP PCB V1172A5020

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER. REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT PARTS INFORMATION.


TO POWER SUPPLY PCB P8
WP8
AC FLD
AC FLD
-31V
B.UP 5V
P.DOWN
IDL 5V
TO MAIN PCB 1/3 P410
P10
IMS CLK
IMS STB
SYS SO
SYS SI
SYS RDY
SYS CLK
D.GND
RESET
C.SYNC
MIC.SW
T.MUTE
AR.DET
AL.DET
Vref
VR
A.GND
TO VPS OR PDC PCB P1
WP1
VPS CLK
VPS SI
VPS SO
VPS RDY
RESET
TO MAIN PCB 3/3 P9
P9
BAND B
BAND A
AFT H
AFT L
AFT
NICAM/FM
V.T
FINE PWM
FINE/NOR
NC
RF DATA
RF CLK
N.C
IB2 RGLE 47K×3
IB3 RGLE 10K×6
IB4 RGLE 10K×5
PH1 GP1U521X
SHILD CASE
W52
IC3 XC61AC3002TH
TR1 DTC144ES
X1 32.768KHz
X2 CST 4MTGW
SW14 RESET
IC1 M38173M6-242FP QHXOPP1 EXCEPT SV-EOH-DNV
M38173M6-243FP QHXOPD1 SV-EOH-DNV
IC2 ST24C02
IB5 RGLE 10K×4
IB8 RGLE 47K×3
IB9 RGLE 10K×3
IB10 RGLE 47K×5
REC LEVEL
VR1 C-20K
SW1 POWER
SW2 EJECT
SW3 STOP
SW4 PLAY
SW5 REW
SW6 FF
SW7 CH.DOWN
SW8 CH.UP
SW9 SPEED
SW11 I-HQ
SW12 REC
EOG ONLY
EOH ONLY
EOG ONLY
EK, EOH-N
EOH-DN ONLY
EK ONLY
EXCEPT EK, EOH-N
EA ONLY
EO, EOH ONLY
EK-N, G65-P-EOG-D ONLY
*JS2, 3, 4, 6: EXCEPT EOH-DN SV-EOH-DNV, EOG
*L3, 4, R45, 46: EOH-DN SV-EOH-DNV, EOG ONLY
FL1 FIP12CJM7
IDL 5V
B.UP 5V
P.DOWN
-31V
TR2 DTC143ES
TR3 DTC143ES
TR4 DTC143ES
D10 HZS7B2
P7
IDL 5V
CATHODE
DOOR SW
WP207
DOOR SW
PH201 RPI-352
OPERATION PCB V1172A505A

DOOR POSITION DETECT PCB

V1172A505C

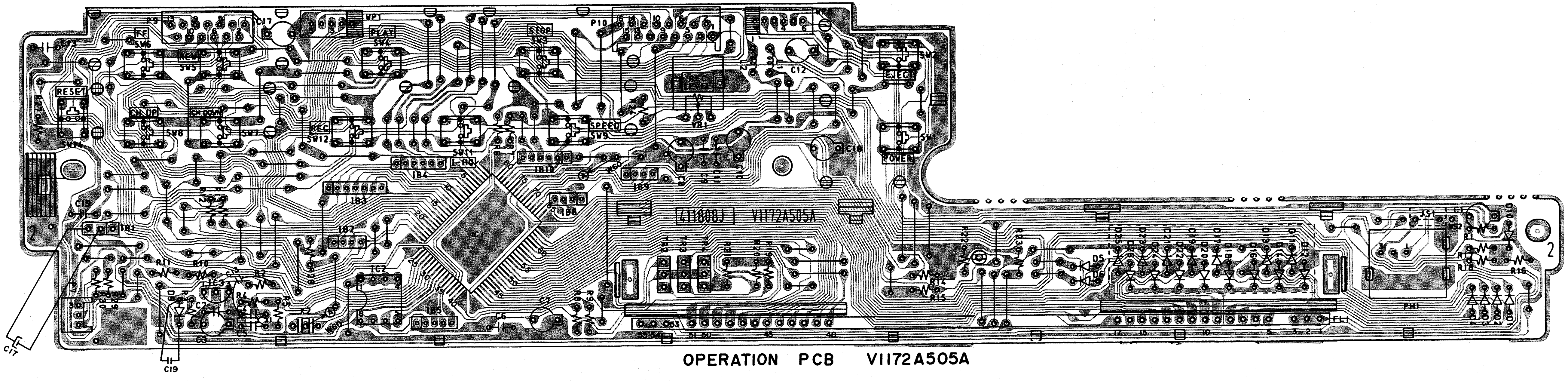
▨ :B (POWER SUPPLY) LINE

INDICATED VOLTAGES WERE
MEASURED DURING PB MODE.
(TAPE SPEED:SP)

NOTE:
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN µF (P=PF)
ALL ELECTROLYTIC CAPACITORS IN µF/WV
ALL INDUCTRS IN µH
ALL DIODES ARE 1SS131T

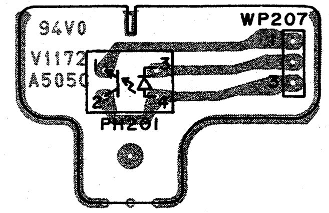
VS-G60EA-D/EO-D/EK-N/EOH-D/EOH-N
VS-G64EOH-DN/EK-N/SV-EOH-DNV
VS-G65EOG-D/P-EOG-D
OPERATION
SCHEMATIC DIAGRAM

NO.18-7 V117207M
A1


RESET
SW14
FF
SW6
REW
SW5
PLAY
SW4
STOP
SW3
EJECT
SW2
POWER
SW1
REC
SW12
SPEED
SW9
SW8
SW7
SW11
WP1
P9
P10
IC1
IC2
C12
C16
C17
C19
VR1
PH1
FL1
V1172A505A
411800J

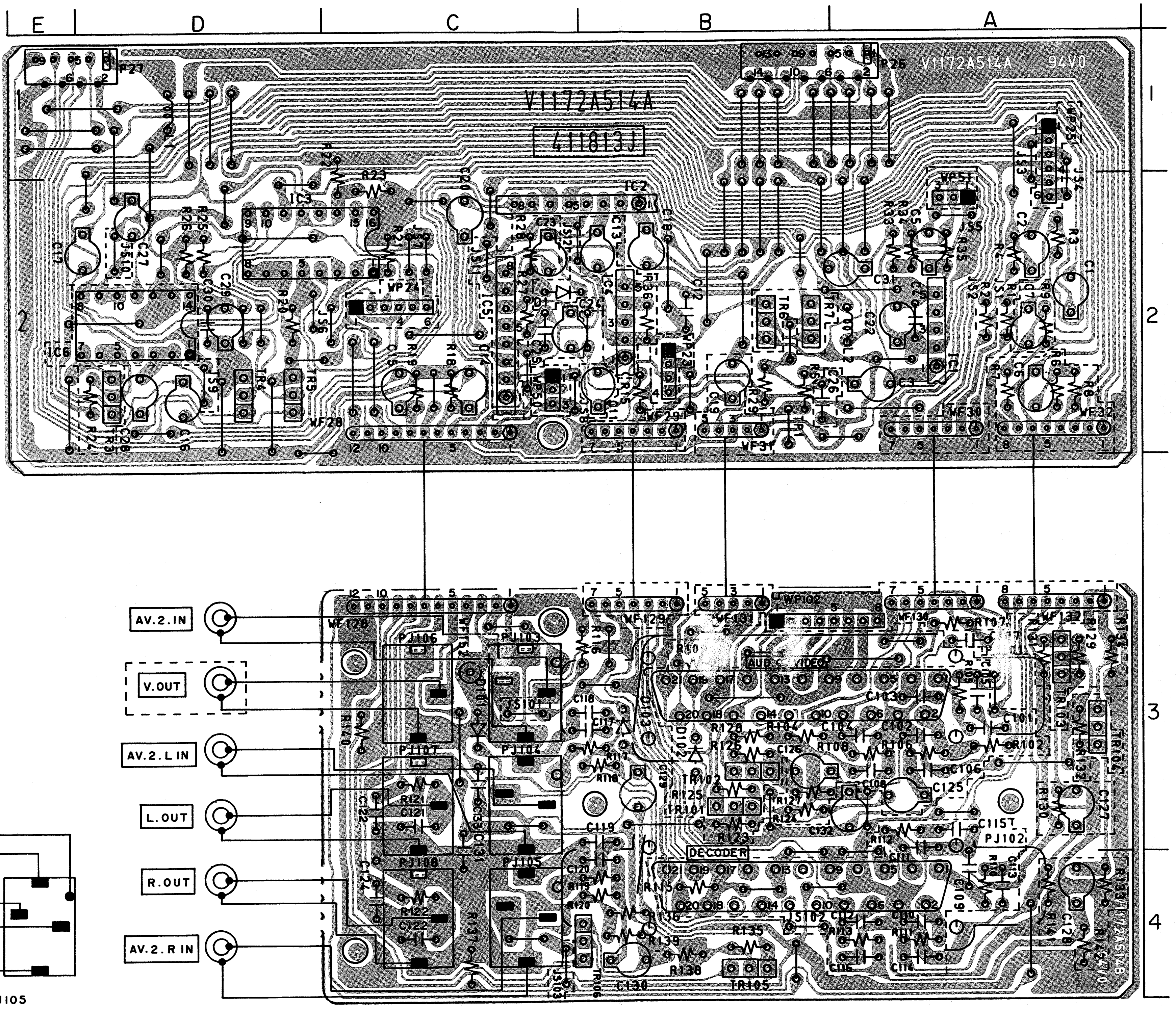
OPERATION PCB V1172A505A

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER.
REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT
PARTS INFORMATION.

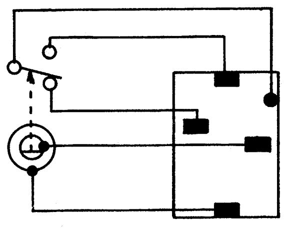

94V0
WP207
V1172
A505C
PH201

DOOR POSITION DETECT PCB
V1172A505C

IN-OUT(A) PCB V1154B514A


E
D
C
B
A
1
2
3
4
V1172A514A
411813J
94V0
P26
P27
AV.2.IN
V.OUT
AV.2.L IN
L.OUT
R.OUT
AV.2.R IN
DECODER
AUDIO
VIDEO

IN-OUT(B) PCB V1154B514B



PJ103～PJ105

PRINCIPAL PARTS LOCATION

ICs

IC1	A2
IC2	B,C2
IC3	C,D2
IC5	C2
IC6	D2

CONNECTORs

P26	A,B1
P27	D,E1

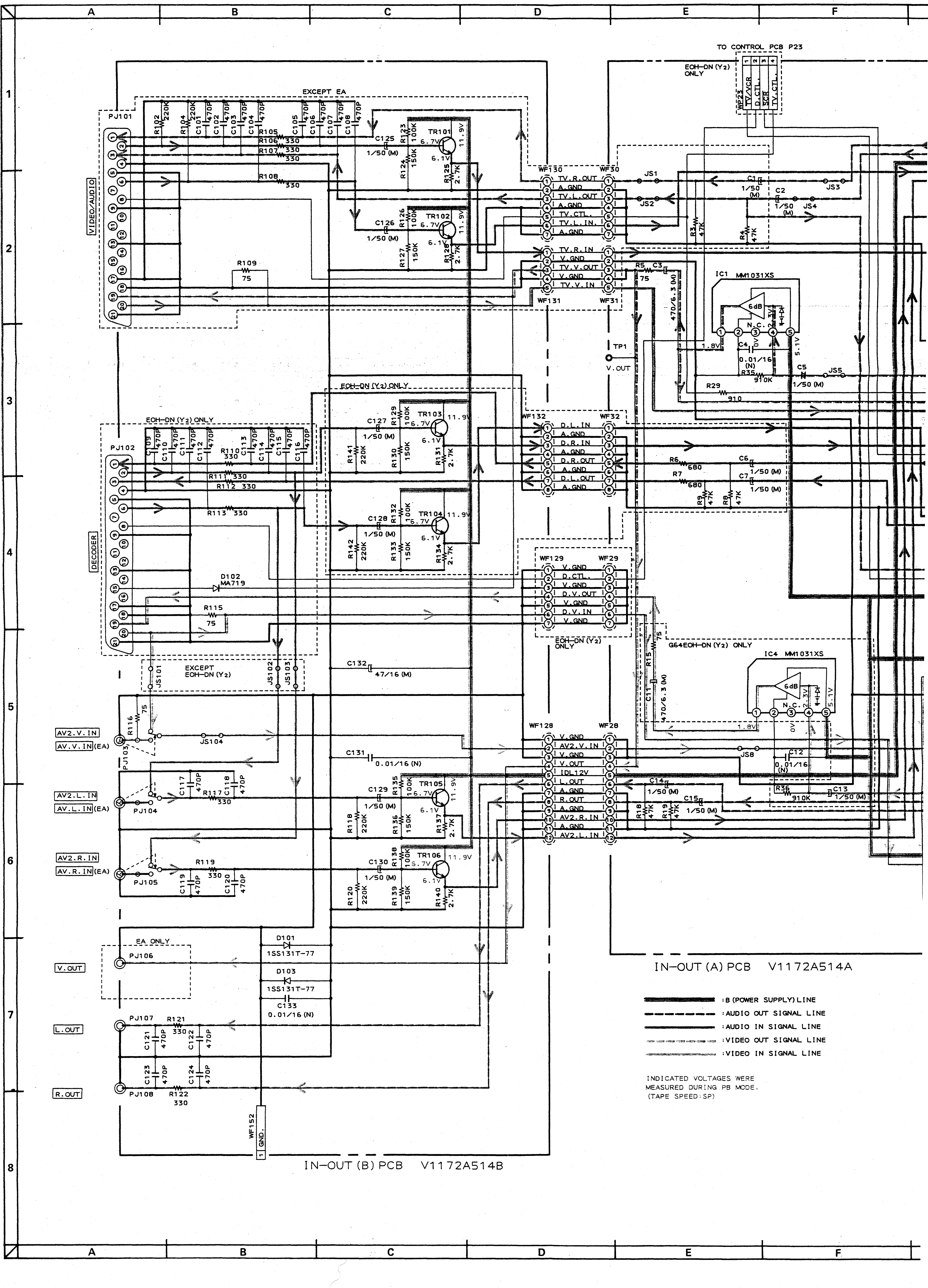
WF&WPS

WF28	C2
WF29	B2
WF30	A2
WF31	B2
WF32	A2
WF128	C3
WF129	B3
WF130	A3
WF131	B3
WF132	A3
WP23	B2
WP24	C2
WP25	A1,2
WP50	C2
WP51	A2

TRANSISTORs

TR3	D2
TR4	D2
TR5	D2
TR6	B2
TR7	B2
TR101	B3
TR102	B3
TR103	A3
TR104	A3
TR105	B4
TR106	B4

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER.
REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT
PARTS INFORMATION.

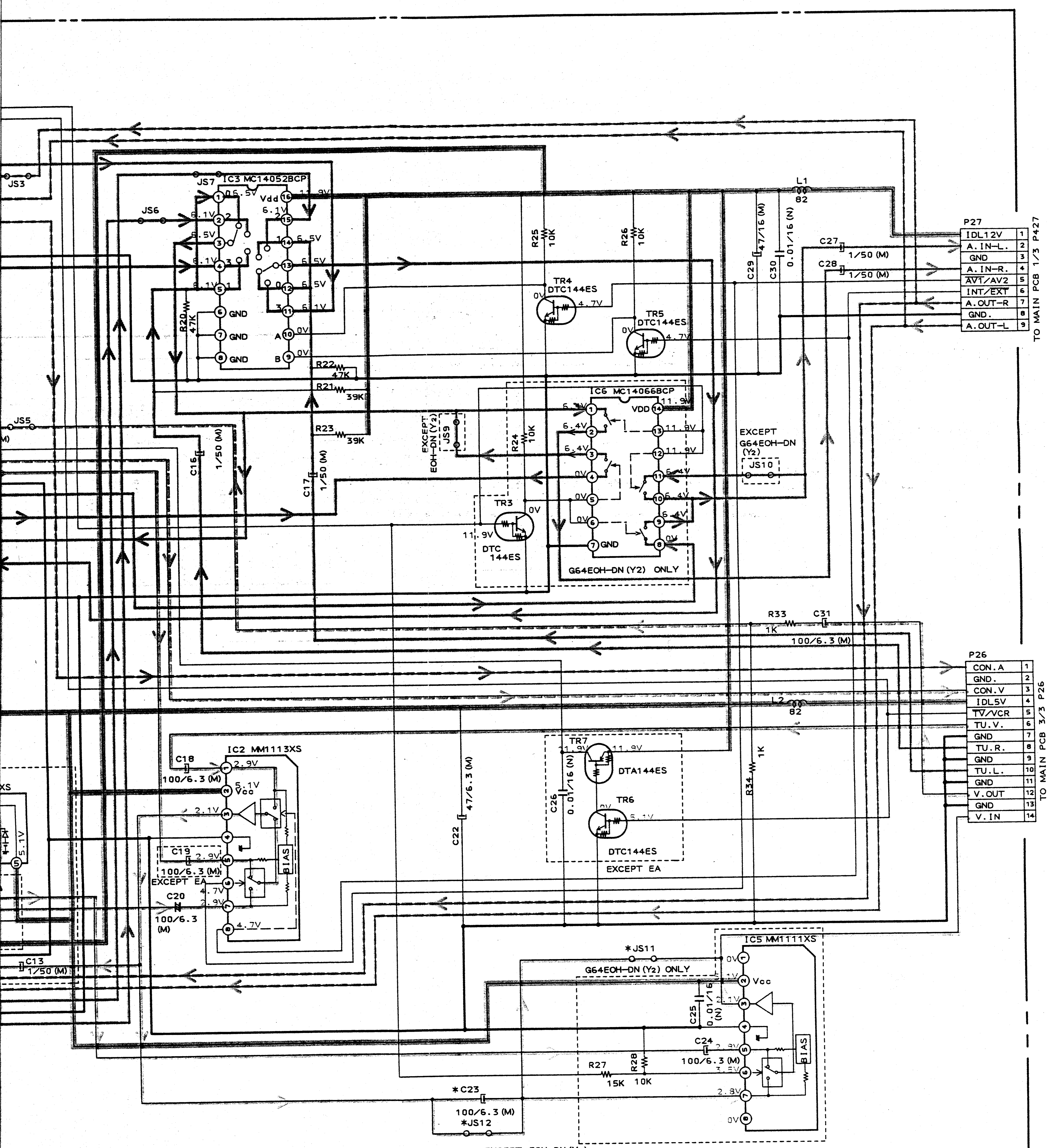

A
B
C
D
E
F
1
2
3
4
5
6
7
8
TO CONTROL PCB P23
EOH-DN (Y2) ONLY
WF23
TV/VCR
D.CTL.
SCR
TV.CTL.
EXCEPT EA
PJ101
VIDEO/AUDIO
R102 220K
R104 220K
C101 470P
C102 470P
C103 470P
C104 470P
C105 470P
C106 470P
C107 470P
C108 470P
R105
R106 330
R107 330
330
R108 330
C125
1/50 (M)
TR101
6.7V
6.1V
11.9V
R123 100K
R124 150K
R125 2.7K
C126
1/50 (M)
TR102
R127 150K
R128 2.7K
R109
75
WF130
WF30
TV.R.OUT
A.GND
TV.L.OUT
A.GND
TV.CTL.
TV.L.IN.
A.GND
TV.R.IN
V.GND
TV.V.OUT
V.GND
TV.V.IN
WF131
WF31
JS1
JS2
JS3
JS4
C1
1/50 (M)
C2
1/50 (M)
R3 47K
R4 47K
R5
75
C3
470/6.3 (M)
IC1 MM1031XS
6dB
N.C.
2.3V
1.8V
5.1V
0V
C4
0.01/16 (N)
R35
910K
C5
1/50 (M)
JS5
R29
910
TP1
V.OUT
EOH-DN (Y2) ONLY
TR103
C127
1/50 (M)
R129 100K
R130 150K
R131 2.7K
R141 220K
EOH-DN (Y2) ONLY
PJ102
DECODER
C109 470P
C110 470P
C111 470P
C112 470P
C113 470P
C114 470P
C115 470P
C116 470P
R110 330
R111 330
R112 330
R113 330
WF132
WF32
D.L.IN
A.GND
D.R.IN
A.GND
D.R.OUT
A.GND
D.L.OUT
A.GND
R6 680
R7 680
C6 1/50 (M)
C7 1/50 (M)
R9 47K
R8 47K
TR104
C128
1/50 (M)
R132 100K
R133 150K
R134 2.7K
R142 220K
D102
MA719
R115
75
WF129
WF29
V.GND
D.CTL.
V.GND
D.V.OUT
V.GND
D.V.IN
V.GND
EOH-DN (Y2) ONLY
R15
75
C11
470/6.3 (M)
G64EOH-DN (Y2) ONLY
IC4 MM1031XS
C132
47/16 (M)
EXCEPT EOH-DN (Y2)
JS101
JS102
JS103
R116
75
AV2.V.IN
AV.V.IN (EA)
PJ103
JS104
C131
0.01/16 (N)
AV2.L.IN
AV.L.IN (EA)
PJ104
C117 470P
R117 330
C118 470P
TR105
C129
1/50 (M)
R135 100K
R136 150K
R137 2.7K
R118 220K
WF128
WF28
V.GND
AV2.V.IN
V.GND
V.OUT
IDL12V
L.OUT
A.GND
R.OUT
A.GND
AV2.R.IN
A.GND
AV2.L.IN
JS8
C12
0.01/16 (N)
C14
1/50 (M)
C15
1/50 (M)
R18 47K
R19 47K
R36
910K
C13
1/50 (M)
AV2.R.IN
AV.R.IN (EA)
PJ105
R119
330
C119 470P
C120 470P
TR106
C130
1/50 (M)
R138 100K
R139 150K
R140 2.7K
R120 220K
EA ONLY
PJ106
V.OUT
D101
1SS131T-77
D103
1SS131T-77
C133
0.01/16 (N)
L.OUT
PJ107
R121
330
C121 470P
C122 470P
R.OUT
PJ108
R122
330
C123 470P
C124 470P
WF152
1 GND.

IN-OUT (A) PCB V1172A514A

IN-OUT (B) PCB V1172A514B

▬ :B (POWER SUPPLY) LINE
- - - :AUDIO OUT SIGNAL LINE
— :AUDIO IN SIGNAL LINE
┈ :VIDEO OUT SIGNAL LINE
┈ :VIDEO IN SIGNAL LINE

INDICATED VOLTAGES WERE
MEASURED DURING PB MODE.
(TAPE SPEED:SP)


F
G
H
I
J
K
1
2
3
4
5
6
7
8
JS3
JS5
JS6
JS7
IC3 MC14052BCP
Vdd
GND
A
B
R20 47K
R22 47K
R21 39K
R23 39K
C16 1/50 (M)
C17 1/50 (M)
R25 10K
R26 10K
TR4 DTC144ES
TR5 DTC144ES
L1 82
C29 47/16 (M)
C30 0.01/16 (N)
C27 1/50 (M)
C28 1/50 (M)
P27
IDL12V
A.IN-L.
GND
A.IN-R.
AV1/AV2
INT/EXT
A.OUT-R
GND.
A.OUT-L
TO MAIN PCB 1/3 P427
IC6 MC14066BCP
VDD
EXCEPT EOH-DN (Y2)
JS9
R24 10K
TR3 DTC 144ES
G64EOH-DN (Y2) ONLY
EXCEPT G64EOH-DN (Y2)
JS10
R33 1K
C31 100/6.3 (M)
P26
CON.A
GND.
CON.V
IDL5V
TV/VCR
TU.V.
GND
TU.R.
GND
TU.L.
GND
V.OUT
GND
V.IN
TO MAIN PCB 3/3 P26
L2 82
IC2 MM1113XS
C18 100/6.3 (M)
Vcc
C19 100/6.3 (M)
EXCEPT EA
C20 100/6.3 (M)
BIAS
C22 47/6.3 (M)
TR7 DTA144ES
C26 0.01/16 (N)
TR6 DTC144ES
EXCEPT EA
R34 1K
C13 1/50 (M)
*JS11
G64EOH-DN (Y2) ONLY
IC5 MM1111XS
C25 0.01/16 (N)
C24 100/6.3 (M)
R27 15K
R28 10K
*C23 100/6.3 (M)
*JS12

*JS11, 12: EXCEPT. EOH-DN (Y2)
*C23: EOH-DN (Y2) ONLY

A514A

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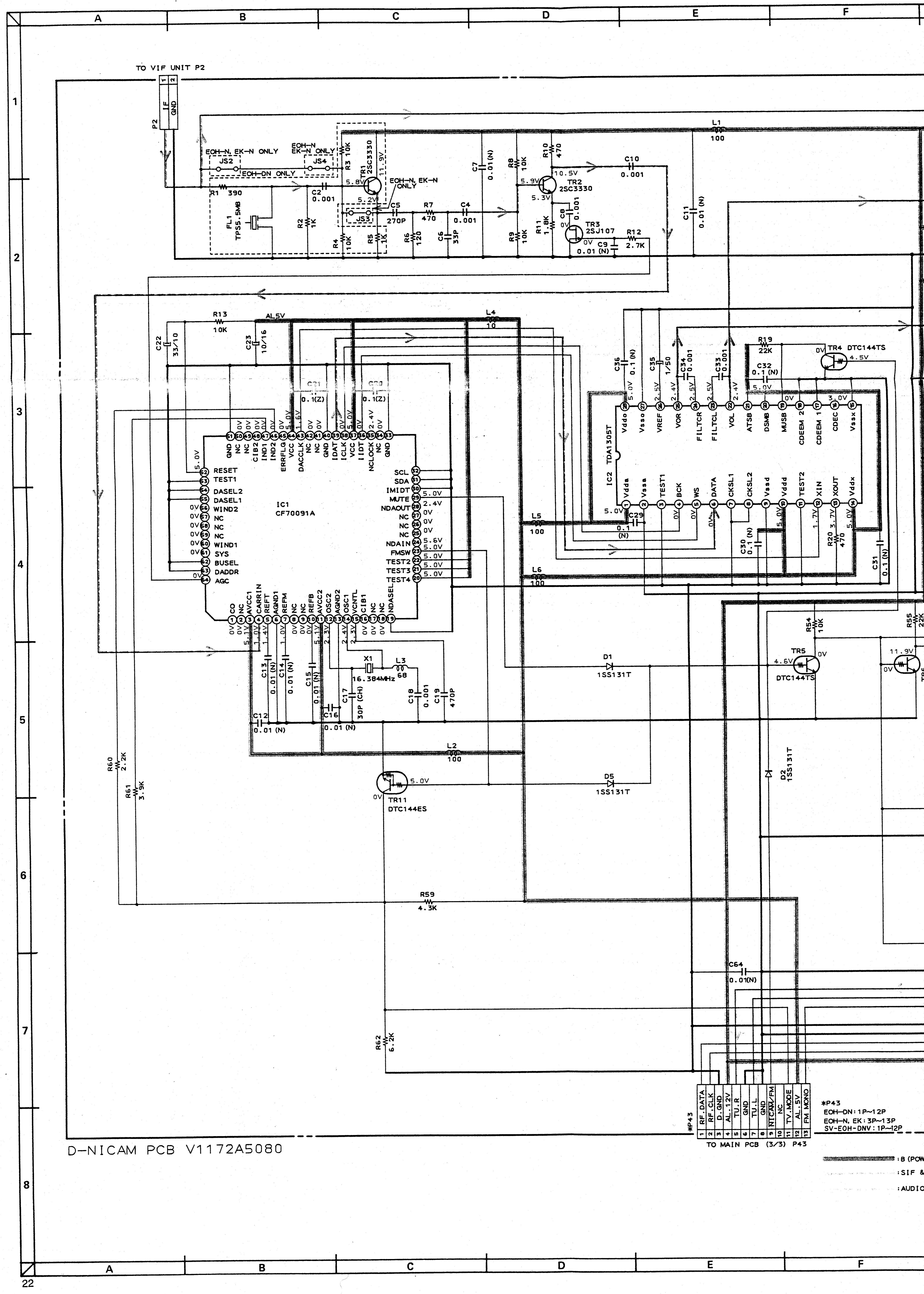
INE

NE

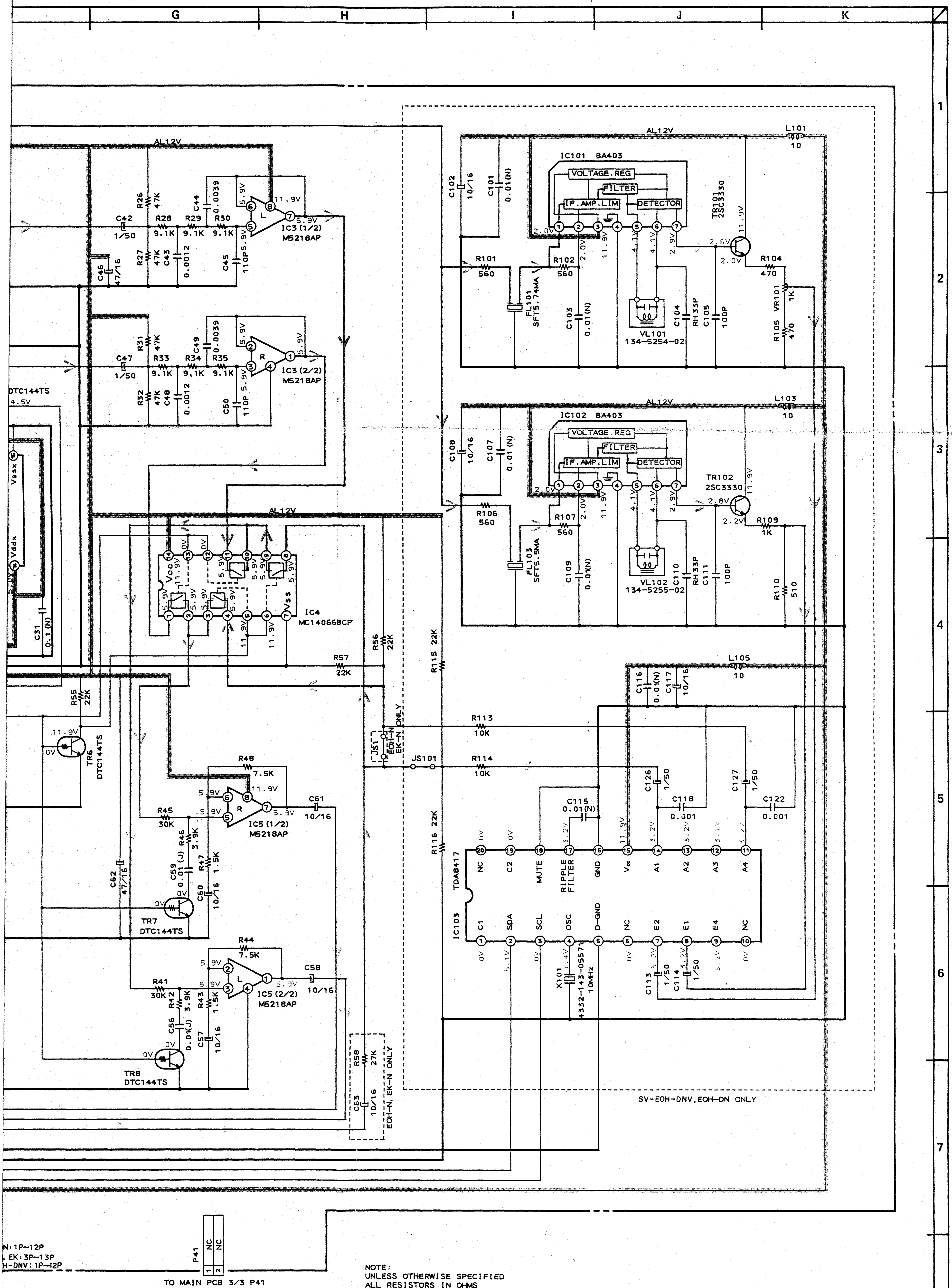
NOTE;
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μF (P=PF)
ALL ELECTROLYTIC CAPACITORS IN μF/WV
ALL INDUCTORS IN μH (K)
ALL TR' S ARE 2SA1317 (PNP)
ALL TR' S ARE 2SC3330 (NPN)

VS-G60EA-D/EO-D/EK-N/EOH-D/EOH-N
VS-G64EOH-DN/EK-N/SV-EOH-DNV
VS-G65EOG-D/P-EOG-D
IN-OUT (A), (B)
SCHEMATIC DIAGRAM
NO.18-8 V117208M A1

F G H I J K


A
B
C
D
E
F
1
2
3
4
5
6
7
8
TO VIF UNIT P2
P2
IF
GND
EOH-N, EK-N ONLY
JS2
EOH-N EK-N ONLY
JS4
EOH-DN ONLY
R1 390
FL1 TPS5.5MB
R2 1K
C2 0.001
R3 10K
TR1 2SC3330
11.9V
5.8V
5.2V
EOH-N, EK-N ONLY
JS3
R4 10K
R5 1K
C5 270P
R6 120
R7 470
C6 33P
C4 0.001
C7 0.01 (N)
R8 10K
R9 10K
R10 470
TR2 2SC3330
10.5V
5.9V
5.3V
C8 0.001
R11 1.8K
TR3 2SJ107
0V
C9 0.01 (N)
R12 2.7K
C10 0.001
L1 100
C11 0.01 (N)
R13 10K
AL5V
L4 10
C22 33/10
C23 10/16
C21 0.1(Z)
C20 0.1(Z)
IC1 CF70091A
GND NC NC CIB2 IND1 IND2 ERRFLG VCC DACCLK NC NC GND IDAT ICLK VCC IIDT NCLOCK NC GND
RESET
TEST1
DASEL2
DASEL1
WIND2
NC
NC
NC
WIND1
SYS
BUSEL
DADDR
AGC
SCL
SDA
IMIDT
MUTE
NDAOUT
NC
NC
NC
NDAIN
FMSW
TEST2
TEST3
TEST4
CO NC AVCC1 CARRIN REFT AGND1 REFM NC NC REFB AVCC2 OSC2 AGND2 OSC1 VCNTL CIB1 NC NC NDASEL
X1 16.384MHz
L3 68
C12 0.01 (N)
C13 0.01 (N)
C14 0.01 (N)
C15 0.01 (N)
C16 0.01 (N)
C17 30P (CH)
C18 0.001
C19 470P
L2 100
TR11 DTC144ES
D1 1SS131T
D5 1SS131T
R59 4.3K
R60 2.2K
R61 3.9K
R62 6.2K
L5 100
L6 100
IC2 TDA1305T
Vddo Vsso VREF VOR FILTCR FILTCL VOL ATSB DSMB MUSB CDEEM 2 CDEEM 1 CDEC Vssx
Vdda Vssa TEST1 BCK WS DATA CKSL1 CKSL2 Vssd Vddd TEST2 XIN XOUT Vddx
C29 0.1 (N)
C30 0.1 (N)
C31 0.1 (N)
C32 0.1 (N)
C33 0.001
C34 0.001
C35 1/50
C36 0.1 (N)
R19 22K
R20 470
TR4 DTC144TS
4.5V
TR5 DTC144TS
4.6V
R54 10K
R55 22K
D2 1SS131T
C64 0.01(N)
*P43
RF. DATA
RF. CLK
D. GND
AL. 12V
TU. R
GND
TU. L
GND
NICAM/FM
NC
TV. MODE
AL. 5V
FM MONO
TO MAIN PCB (3/3) P43
*P43
EOH-DN : 1P~12P
EOH-N, EK : 3P~13P
SV-EOH-DNV : 1P~12P
: B (POW
: SIF &
: AUDIO

D-NICAM PCB V1172A5080


G
H
I
J
K
1
2
3
4
5
6
7
8
AL12V
C42 1/50
R26 47K
R27 47K
R28 9.1K
R29 9.1K
R30 9.1K
C43 0.0012
C44 0.0039
C45 110P
C46 47/16
IC3 (1/2) M5218AP
11.9V
5.9V
C47 1/50
R31 47K
R32 47K
R33 9.1K
R34 9.1K
R35 9.1K
C48 0.0012
C49 0.0039
C50 110P
IC3 (2/2) M5218AP
DTC144TS
4.5V
Vssx
Vddx
C31 0.1 (N)
IC4 MC140668CP
Vcc
Vss
R55 22K
R56 22K
R57 22K
TR6 DTC144TS
R48 7.5K
R45 30K
R46 3.9K
R47 1.5K
C59 0.01 (J)
C60 10/16
C61 10/16
C62 47/16
IC5 (1/2) M5218AP
TR7 DTC144TS
R44 7.5K
R41 30K
R42 3.9K
R43 1.5K
C56 0.01(J)
C57 10/16
C58 10/16
IC5 (2/2) M5218AP
TR8 DTC144TS
R58 27K
C63 10/16
EOH-N, EK-N ONLY
JS1 EOH-N EK-N ONLY
JS101
R115 22K
R116 22K
IC101 BA403
VOLTAGE.REG
FILTER
IF.AMP.LIM
DETECTOR
C102 10/16
C101 0.01 (N)
R101 560
R102 560
FL101 SFT5.74MA
C103 0.01 (N)
VL101 134-5254-02
C104 RH33P
C105 100P
TR101 2SC3330
R104 470
VR101 1K
R105 470
L101 10
IC102 BA403
C108 10/16
C107 0.01 (N)
R106 560
R107 560
FL103 SFT5.5MA
C109 0.01(N)
VL102 134-5255-02
C110 RH33P
C111 100P
TR102 2SC3330
R109 1K
R110 510
L103 10
L105 10
C116 0.01(N)
C117 10/16
R113 10K
R114 10K
C126 1/50
C118 0.001
C127 1/50
C122 0.001
C115 0.01(N)
IC103 TDA8417
NC
C2
MUTE
RIPPLE FILTER
GND
Vcc
A1
A2
A3
A4
C1
SDA
SCL
OSC
D-GND
E2
E1
E4
X101 4332-143-05571 10MHz
C113 1/50
C114 1/50
SV-EOH-DNV, EOH-DN ONLY
P41
NC
NC

N:1P~12P
, EK:3P~13P
H-DNV:1P~12P

TO MAIN PCB 3/3 P41

:B (POWER SUPPLY) LINE
:SIF & PCM DATA LINE
:AUDIO SIGNAL LINE

INDICATED VOLTAGES WERE
MEASURED DURING E-E MODE.
(NO SIGNAL WAS BEING INPUT)

NOTE:
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN µF (P=PF)
ALL ELECTROLYTIC CAPACITORS IN µF/WV
ALL INDUCTORS IN µH

VS-G60EK-N/EOH-N
VS-G64EOH-DN/EK-N/SV-EOH-DNV
D-NICAM
SCHEMATIC DIAGRAM
NO.18-9 V117209M
A1

PRINCIPAL PARTS LOCATION

ICs

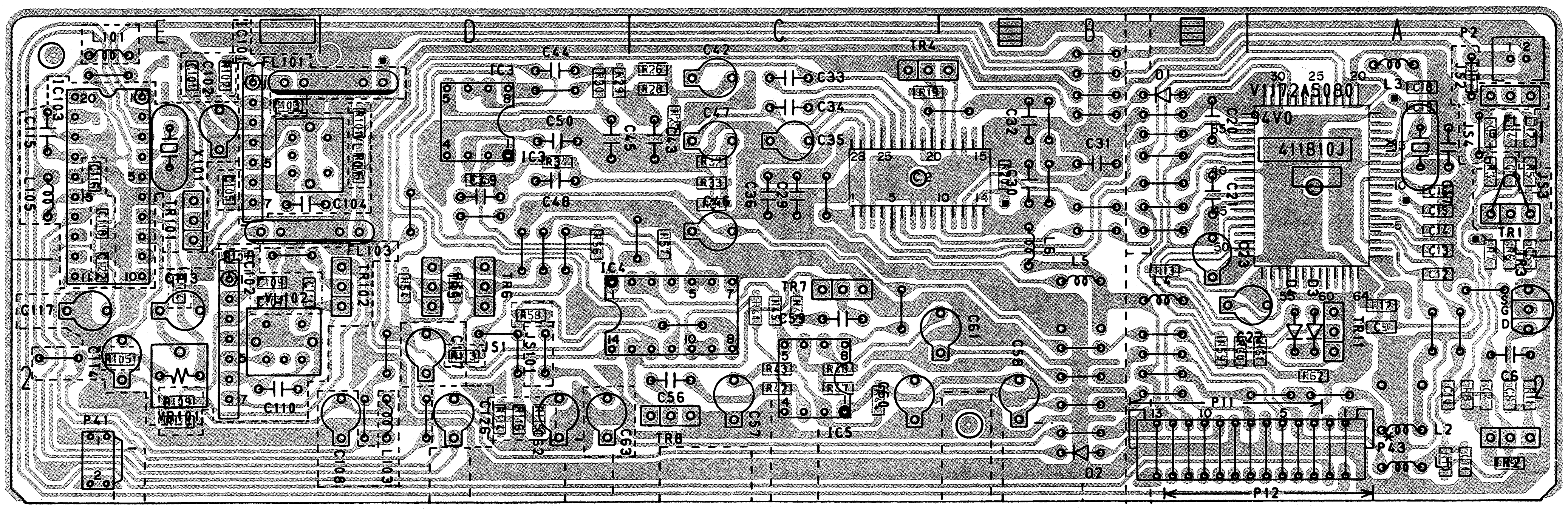
IC1	A,B3
IC2	C3
IC3	D3
IC4	D4
IC5	C4
IC101	E3
IC102	E4
IC103	F3

CONNECTORs

P2	A3
P41	F4
P43	B4

TRANSISTORs

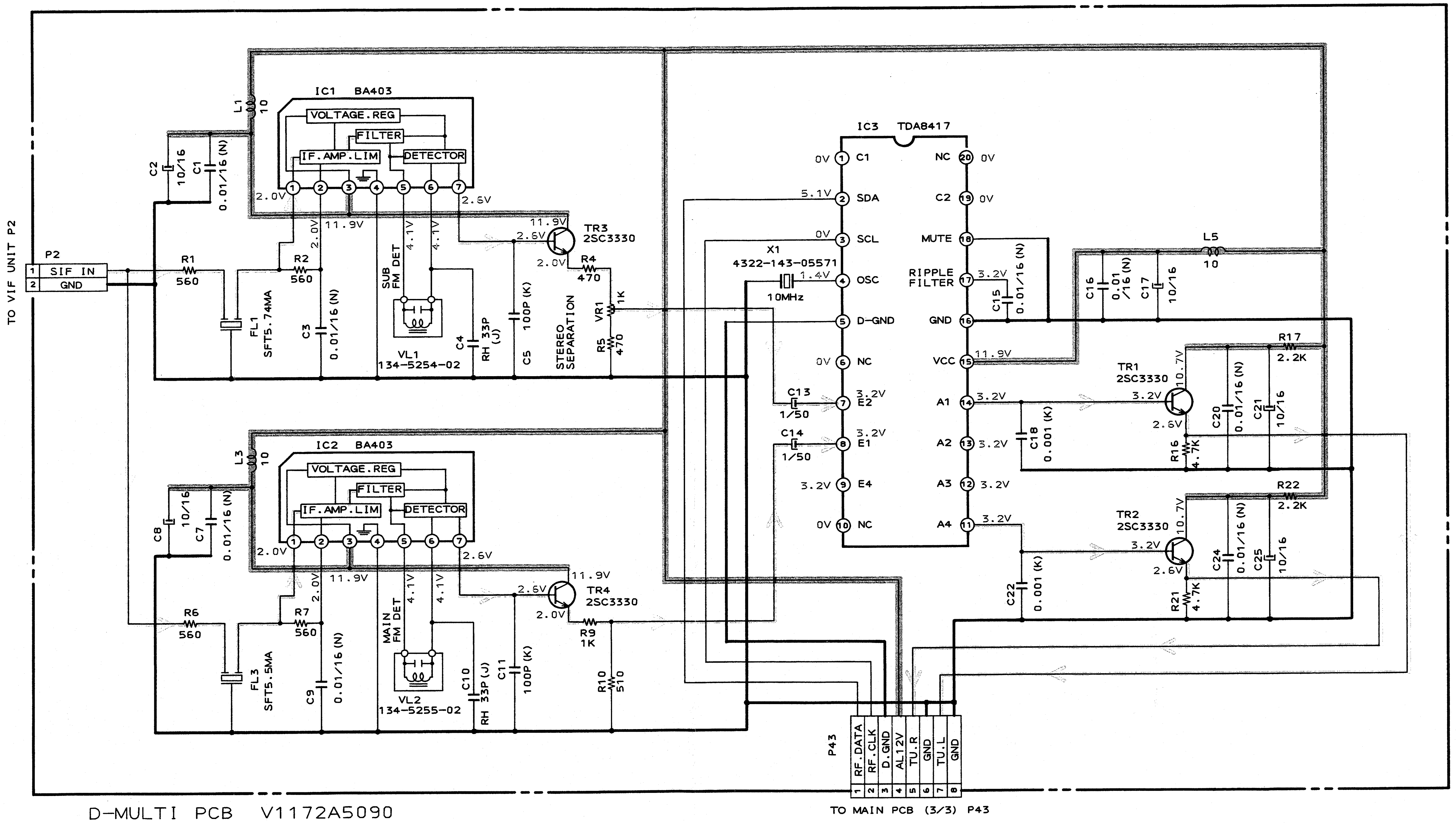
TR1	A3
TR2	A4
TR3	A4
TR4	C3
TR5	E4
TR6	D4
TR7	C4
TR8	D4
TR11	A4
TR101	E3
TR102	E4


E
D
C
B
A
2
IC3
IC1
IC4
IC5
IC101
IC102
IC103
TR4
TR6
TR7
TR8
TR1
TR11
TR101
TR102
P2
P41
P43
P11
P12
V1172A5080
94V0
411810J
D1
D2
L101
FL101
FL103
X101
C117
C56

D-NICAM PCB V1172A5080
(EOH-N, EOH-DN, EK-N, SV-EOH-DNV ONLY)

*P43 EOH-DN : 1P∼12P
EOH-N, : 3P∼13P
EK
SV-EOH-DNV

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER. REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT PARTS INFORMATION.


TO VIF UNIT P2
P2
1 SIF IN
2 GND
R1 560
FL1 SFT5.74MA
C2 10/16
C1 0.01/16 (N)
L1 10
IC1 BA403
VOLTAGE.REG
FILTER
IF.AMP.LIM
DETECTOR
2.0V
11.9V
2.6V
R2 560
C3 0.01/16 (N)
SUB FM DET
4.1V
VL1 134-5254-02
C4 33P (J) RH
C5 100P (K)
TR3 2SC3330
R4 470
VR1 1K
R5 470
STEREO SEPARATION
IC2 BA403
L3 10
C8 10/16
C7 0.01/16 (N)
R6 560
FL3 SFT5.5MA
R7 560
C9 0.01/16 (N)
MAIN FM DET
VL2 134-5255-02
C10 33P (J) RH
C11 100P (K)
TR4 2SC3330
R9 1K
R10 510
IC3 TDA8417
0V 1 C1
5.1V 2 SDA
0V 3 SCL
1.4V 4 OSC
5 D-GND
0V 6 NC
3.2V 7 E2
3.2V 8 E1
3.2V 9 E4
0V 10 NC
NC 20 0V
C2 19 0V
MUTE 18
RIPPLE FILTER 17 3.2V
GND 16
VCC 15 11.9V
A1 14 3.2V
A2 13 3.2V
A3 12 3.2V
A4 11 3.2V
X1 4322-143-05571 10MHz
C13 1/50
C14 1/50
C15 0.01/16 (N)
L5 10
C16 0.01/16 (N)
C17 10/16
R17 2.2K
TR1 2SC3330
10.7V
3.2V
2.6V
C18 0.001 (K)
C20 0.01/16 (N)
C21 10/16
R16 4.7K
R22 2.2K
TR2 2SC3330
C22 0.001 (K)
C24 0.01/16 (N)
C25 10/16
R21 4.7K
P43
1 RF.DATA
2 RF.CLK
3 D.GND
4 AL12V
5 TU.R
6 GND
7 TU.L
8 GND
TO MAIN PCB (3/3) P43

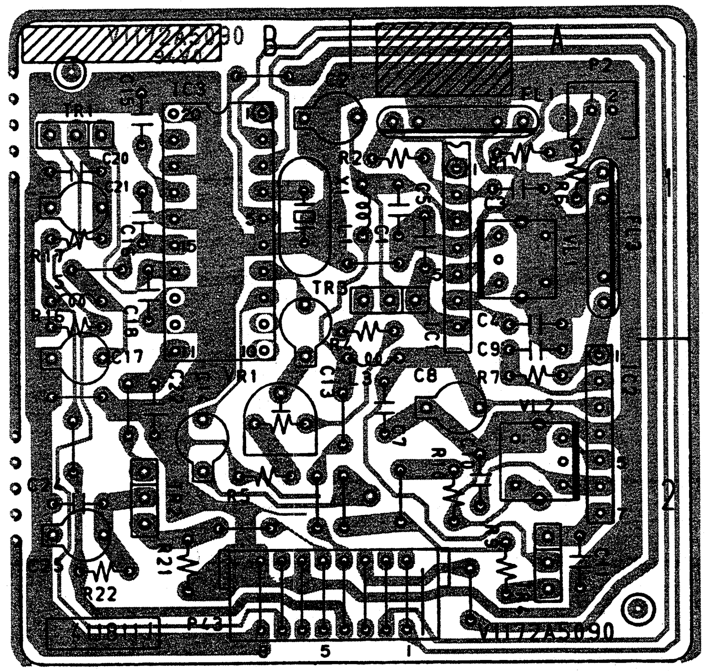
D-MULTI PCB V1172A5090

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W (J)
ALL CAPACITORS IN µF 50WV (M)
ALL INDUCTORS IN µH (K)

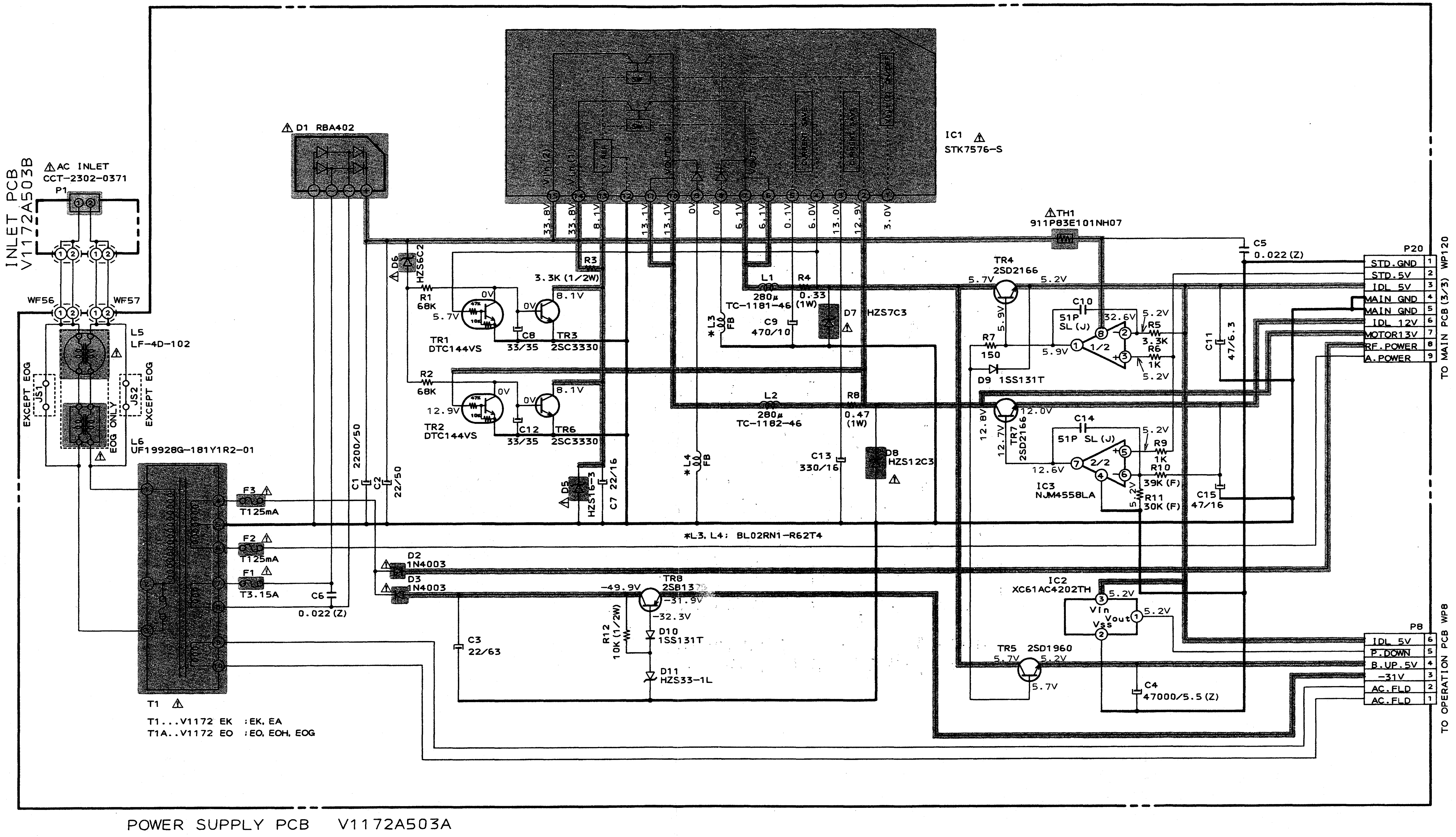
▨ :B (POWER SUPPLY) LINE
▭ :SIF & PCM DATA LINE
▭ :AUDIO SIGNAL LINE

INDICATED VOLTAGES WERE
MEASURED DURING E-E MODE.
(NO SIGNAL WAS BEING INPUT)

VS-G60EA-D/E0-D/E0H-D
VS-G65E0G-D/P-E0G-D
D-MULTI
SCHEMATIC DIAGRAM
NO.18-10 V117210M


V1172A5090
A
TR8
C8
C9
R7
R22
5
1
V1172A5090

D-MULTI PCB V1172A5090
(EA,EO,EOH-D,EOG ONLY)


INLET PCB V1172A503B
⚠AC INLET CCT-2302-0371
P1
WF56
WF57
L5 LF-4D-102
EXCEPT EOG JS1
JS2 EXCEPT EOG
EOG ONLY
L6 UF19928G-181Y1R2-01
T1 ⚠
T1...V1172 EK :EK, EA
T1A..V1172 EO :EO, EOH, EOG
F3 ⚠ T125mA
F2 ⚠ T125mA
F1 ⚠ T3.15A
C6 0.022(Z)
C1 2200/50
C2 22/50
⚠ D1 RBA402
IC1 ⚠ STK7576-S
33.8V
33.8V
8.1V
13.1V
13.1V
0V
0V
6.1V
6.1V
0.1V
6.0V
13.0V
12.9V
3.0V
⚠ D6 HZS6C2
R1 68K
5.7V
TR1 DTC144VS
0V
C8 33/35
3.3K (1/2W)
R3
8.1V
TR3 2SC3330
R2 68K
12.9V
TR2 DTC144VS
0V
C12 33/35
8.1V
TR6 2SC3330
⚠ D5 HZS16-3
C7 22/16
L1 280μ TC-1181-46
R4 0.33 (1W)
*L3 FB
C9 470/10
D7 ⚠ HZS7C3
L2 280μ TC-1182-46
R8 0.47 (1W)
*L4 FB
C13 330/16
D8 HZS12C3 ⚠
*L3, L4; BL02RN1-R62T4
D2 ⚠ 1N4003
D3 ⚠ 1N4003
TR8 2SB1370
-49.9V
-31.9V
-32.3V
R12 10K (1/2W)
D10 1SS131T
D11 HZS33-1L
C3 22/63
⚠TH1 911P83E101NH07
C5 0.022(Z)
TR4 2SD2166
5.7V
5.2V
5.9V
C10 51P SL(J)
32.6V
5.2V
R5 3.3K
R6 1K
5.2V
R7 150
5.9V
1/2
D9 1SS131T
C11 47/6.3
TR7 2SD2166
12.8V
12.0V
12.7V
C14 51P SL(J)
5.2V
R9 1K
R10 39K (F)
12.6V
2/2
IC3 NJM4558LA
5.2V
R11 30K (F)
C15 47/16
IC2 XC61AC4202TH
5.2V
Vin
Vout
Vss
5.2V
TR5 2SD1960
5.7V
5.2V
5.7V
C4 47000/5.5 (Z)
P20
STD.GND 1
STD.5V 2
IDL 5V 3
MAIN GND 4
MAIN GND 5
IDL 12V 6
MOTOR13V 7
RF.POWER 8
A.POWER 9
TO MAIN PCB (3/3) WP120
P8
IDL 5V 6
P.DOWN 5
B.UP.5V 4
-31V 3
AC.FLD 2
AC.FLD 1
TO OPERATION PCB WP8
POWER SUPPLY PCB V1172A503A

▬▬ : B (POWER SUPPLY) LINE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W (J)
ALL CAPACITORS IN μF, 50WV (M)

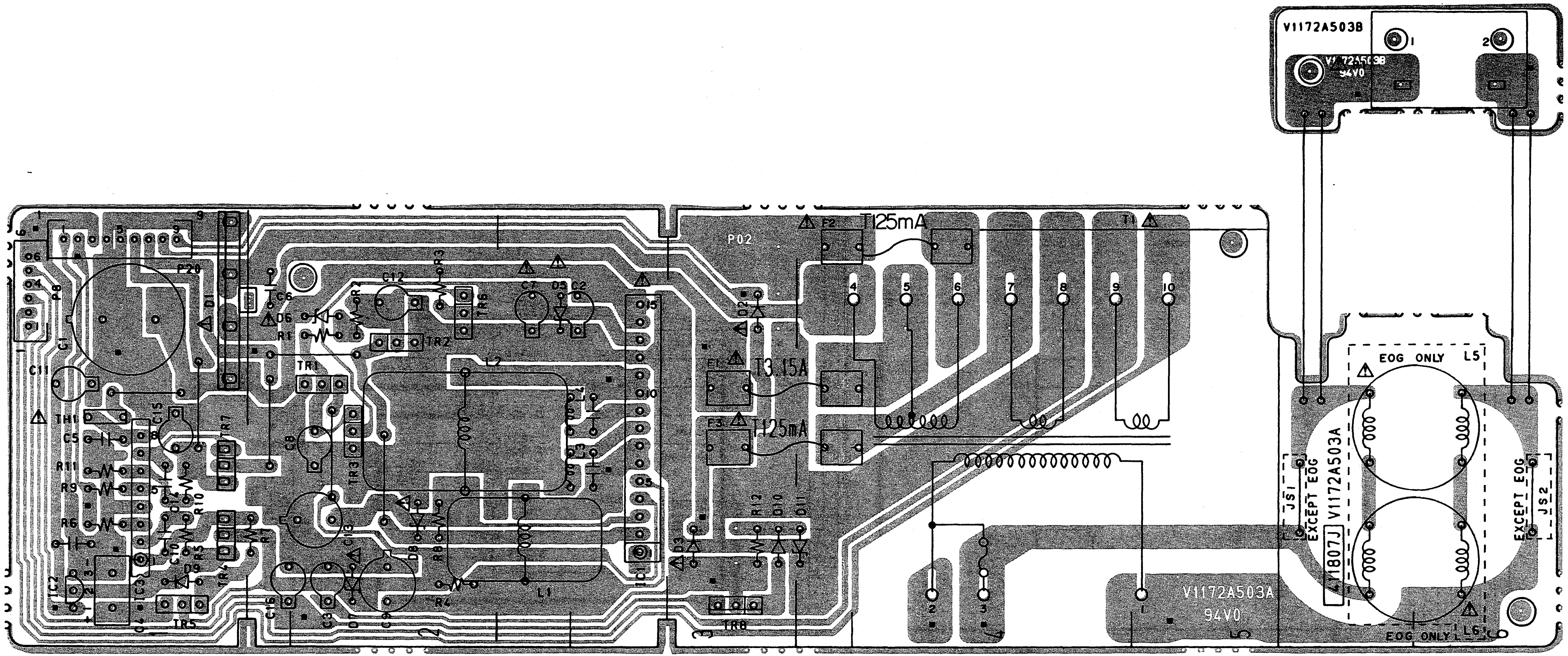
INDICATED VOLTAGES WERE MEASURED DURING E-E MODE.

WARNING: ⚠ AND ▇ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

AVERTISSMENT: ⚠ ET ▇, ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L' APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

VS-G60EA-D/EO-D/EK-N/EOH-D/EOH-N
VS-G64EOH-DN/EK-N/SV-EOH-DNV
VS-G65EOG-D/P-EOG-D
POWER SUPPLY
SCHEMATIC DIAGRAM
NO.18-11 V117211M
A2

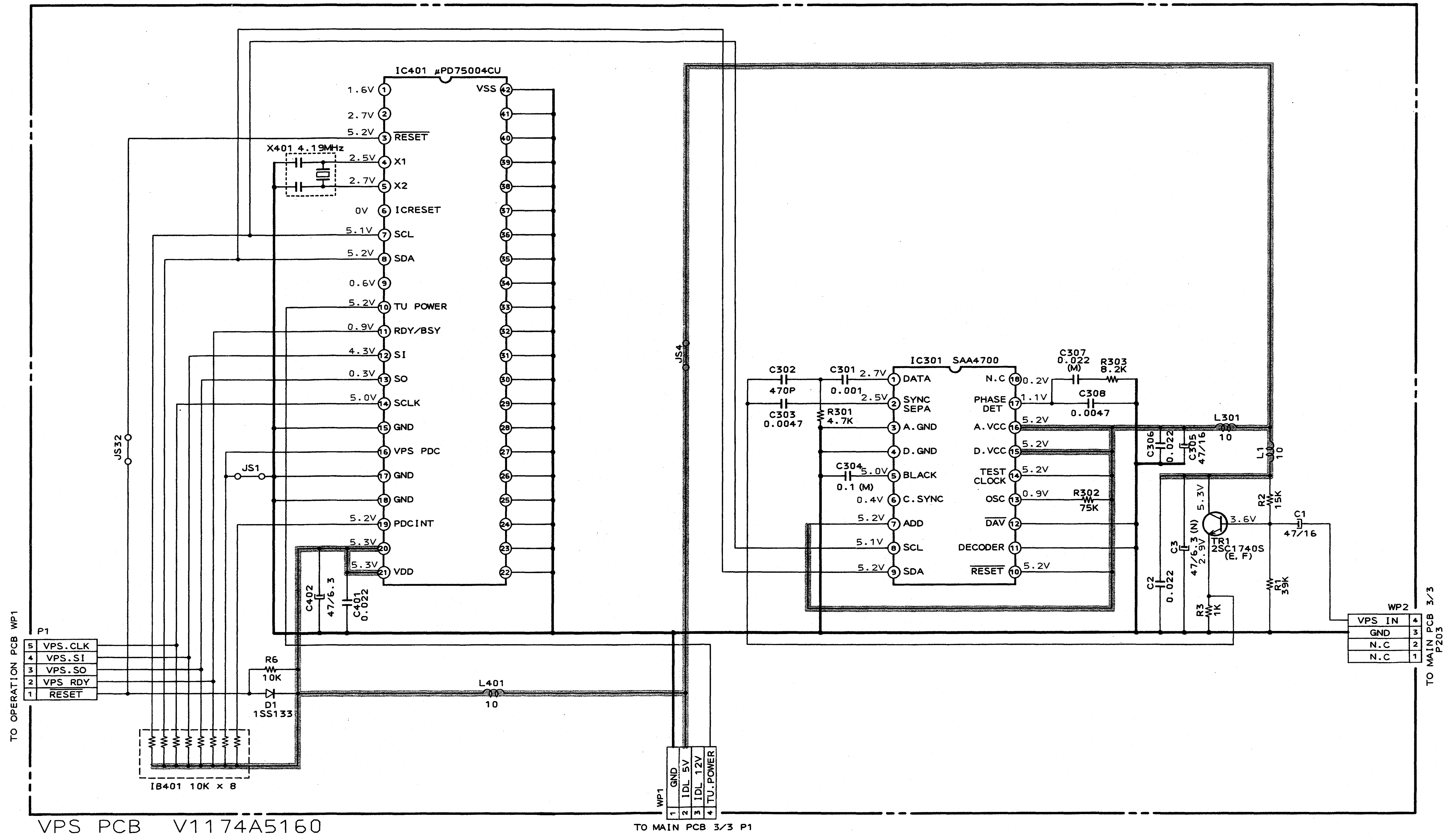
INLET PCB V1172A503B(J1)


V1172A503B
V1172A503B
94V0
P02
F2
T125mA
T1
F1
T3.15A
F3
T125mA
P20
TH1
C5
R11
R9
R6
C11
C12
C7
D3
C2
D6
R1
TR1
TR2
TR3
TR4
TR5
TR6
TR7
TR8
L1
L2
R4
IC1
EOG ONLY
L5
L6
JS1
JS2
EXCEPT EOG
V1172A503A
V1172A503A
94V0
1807J

POWER SUPPLY PCB V1172A503A(J1)

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

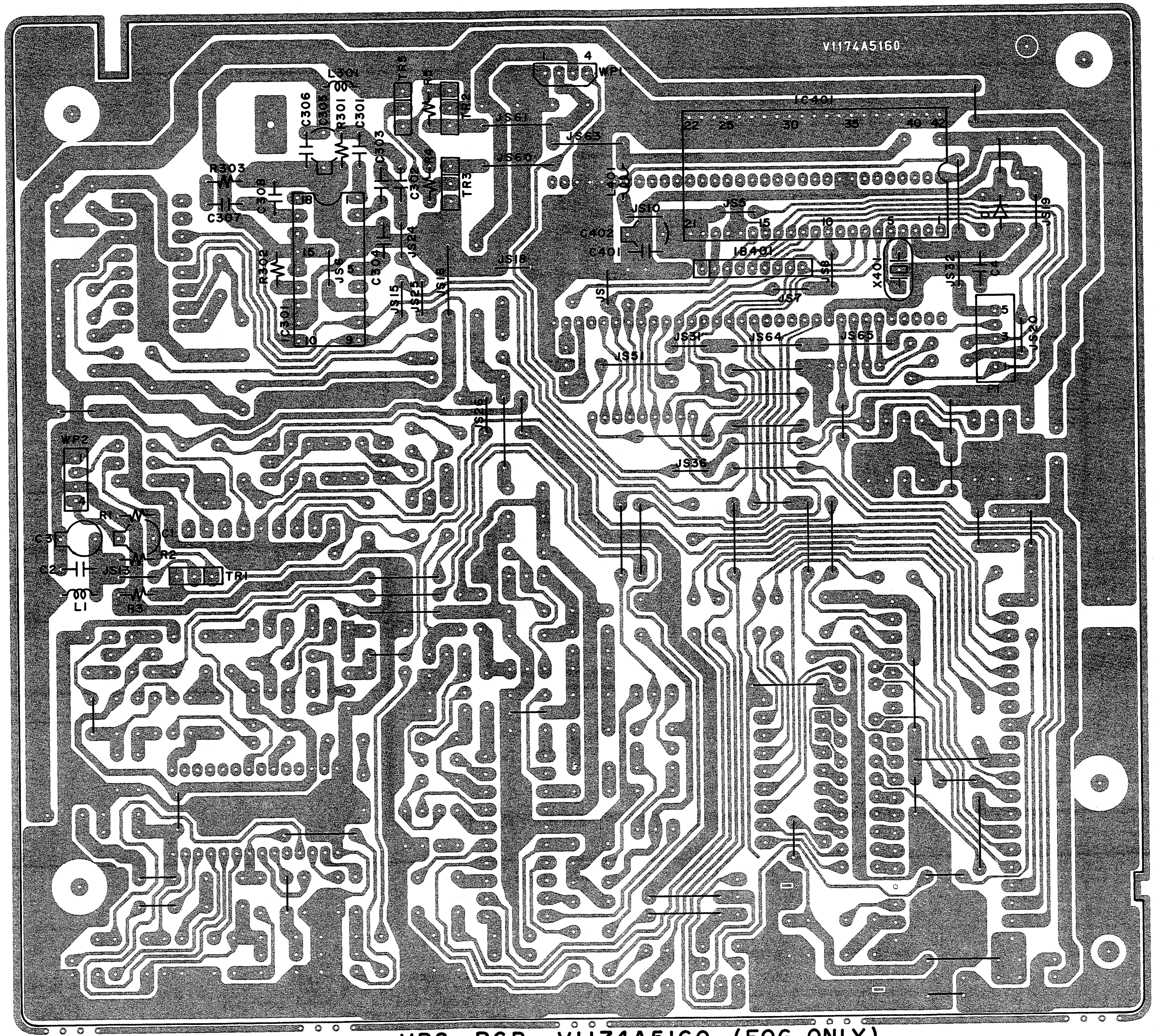

IC401 μPD75004CU
1.6V ①
2.7V ②
5.2V ③ RESET
X401 4.19MHz
2.5V ④ X1
2.7V ⑤ X2
0V ⑥ ICRESET
5.1V ⑦ SCL
5.2V ⑧ SDA
0.6V ⑨
5.2V ⑩ TU POWER
0.9V ⑪ RDY/BSY
4.3V ⑫ SI
0.3V ⑬ SO
5.0V ⑭ SCLK
⑮ GND
⑯ VPS PDC
⑰ GND
⑱ GND
5.2V ⑲ PDCINT
5.3V ⑳
5.3V ㉑ VDD
VSS ㊷
JS1
JS32
JS4
C402 47/6.3
C401 0.022
P1
5 VPS.CLK
4 VPS.SI
3 VPS.SO
2 VPS RDY
1 RESET
TO OPERATION PCB WP1
R6 10K
D1 1SS133
L401 10
IB401 10K × 8
IC301 SAA4700
C302 470P
C303 0.0047
C301 0.001
R301 4.7K
C304 0.1 (M)
2.7V ① DATA
2.5V ② SYNC SEPA
③ A.GND
④ D.GND
5.0V ⑤ BLACK
0.4V ⑥ C.SYNC
5.2V ⑦ ADD
5.1V ⑧ SCL
5.2V ⑨ SDA
N.C ⑱ 0.2V
PHASE DET ⑰ 1.1V
A.VCC ⑯ 5.2V
D.VCC ⑮ 5.2V
TEST CLOCK ⑭ 5.2V
OSC ⑬ 0.9V
DAV ⑫
DECODER ⑪
RESET ⑩ 5.2V
C307 0.022 (M)
R303 8.2K
C308 0.0047
R302 75K
L301 10
C306 0.022
C305 47/16
L1 10
R2 15K
TR1 2SC1740S (E, F)
5.3V
3.6V
2.9V
C3 47/6.3 (N)
C2 0.022
R3 1K
R1 39K
C1 47/16
WP2
VPS IN 4
GND 3
N.C 2
N.C 1
TO MAIN PCB 3/3 P203
WP1
1 GND
2 IDL 5V
3 IDL 12V
4 TU.POWER
TO MAIN PCB 3/3 P1
VPS PCB V1174A5160

▨ : B (POWER SUPPLY) LINE

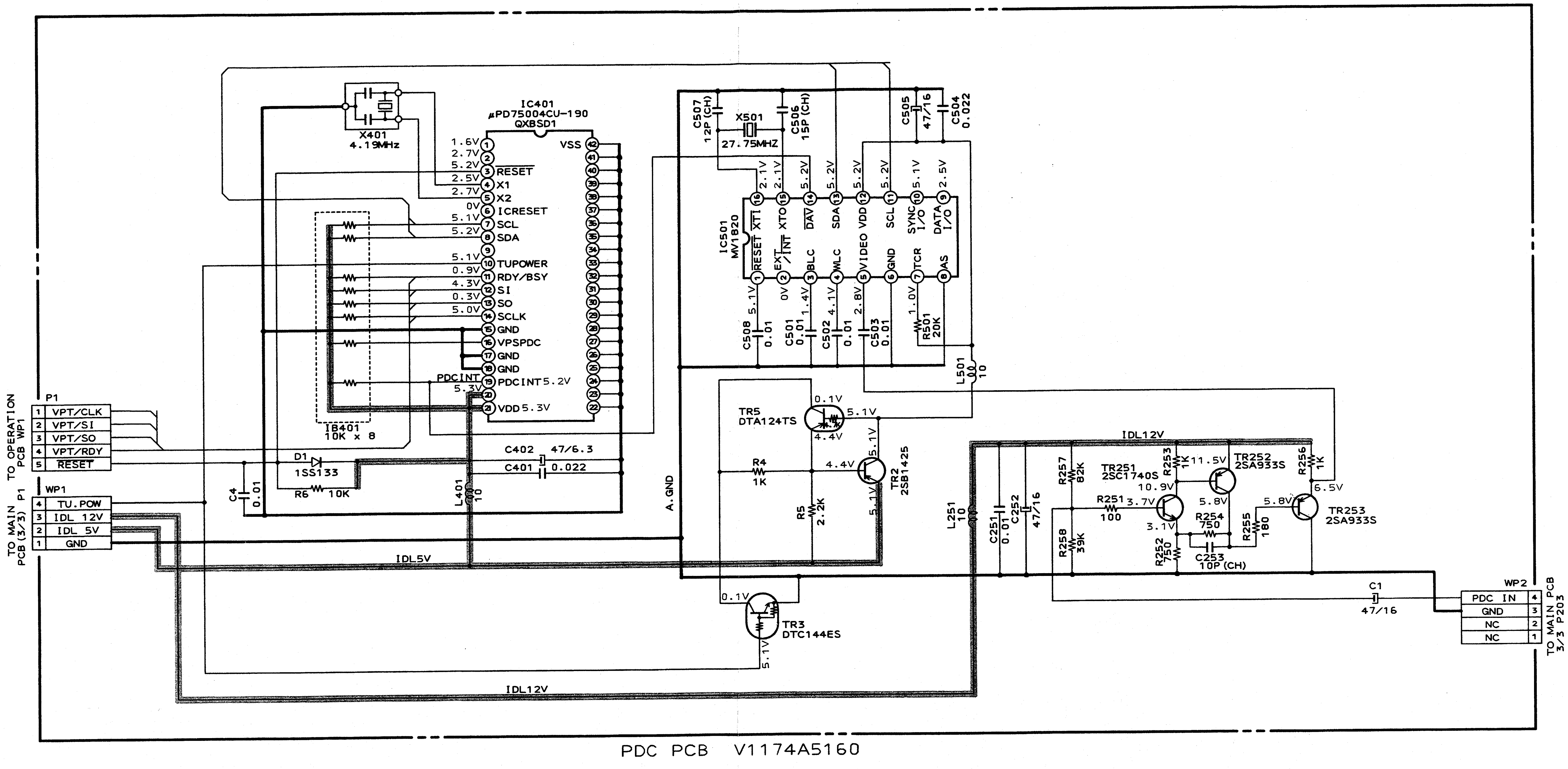
NOTE:
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μF
ALL INDUCTOR IN μH

INDICATED VOLTAGES WERE MEASURED
DURING E-E (STOP) MODE.
(NO SIGNAL WAS BEING RECEIVED)

VS-G65EOG-D/P-EOG-D
VPS
SCHEMATIC DIAGRAM
NO.18-12 V117212M
A3


V1174A5160
WP1
IC401
L301
C306
C305
R301
C301
C303
C308
C307
R303
R302
C304
C302
TR2
TR3
TR5
JS61
JS63
JS60
JS10
JS15
JS16
JS24
JS25
JS7
JS8
JS31
JS64
JS65
JS51
JS36
JS32
JS19
JS20
JS13
C402
C401
IS401
X401
D1
WP2
R1
R2
R3
C1
C2
C3
L1
TR1

VPS PCB V1174A5160 (EOG ONLY)

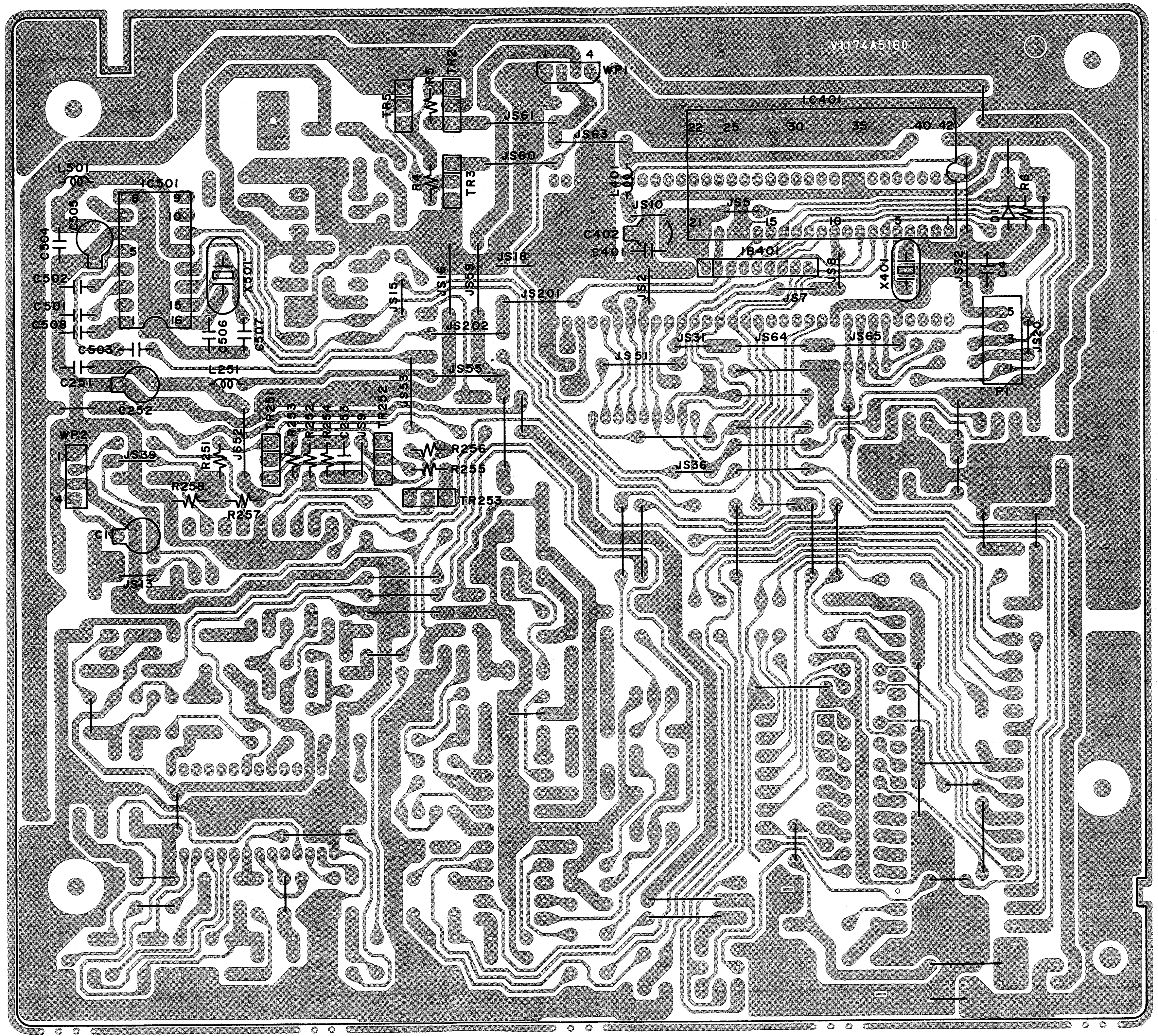

IC401
µPD75004CU-190
QXBSD1
X401
4.19MHz
1.6V 1
2.7V 2
5.2V 3 RESET
2.5V 4 X1
2.7V 5 X2
0V 6 ICRESET
5.1V 7 SCL
5.2V 8 SDA
9
5.1V 10 TUPOWER
0.9V 11 RDY/BSY
4.3V 12 SI
0.3V 13 SO
5.0V 14 SCLK
15 GND
16 VPSPDC
17 GND
18 GND
PDCINT 19 PDCINT 5.2V
5.3V 20
21 VDD 5.3V
VSS 42
IB401
10K x 8
P1
TO OPERATION PCB WP1
1 VPT/CLK
2 VPT/SI
3 VPT/SO
4 VPT/RDY
5 RESET
WP1 P1
TO MAIN PCB (3/3)
4 TU.POW
3 IDL 12V
2 IDL 5V
1 GND
C4 0.01
D1 1SS133
R6 10K
C402 47/6.3
C401 0.022
L401 10
IDL5V
IDL12V
A.GND
C507 12P (CH)
X501 27.75MHZ
C506 15P (CH)
C505 47/16
C504 0.022
IC501 MV1820
16 XT1 2.1V
15 XTO 2.1V
14 DAV 5.2V
13 SDA 5.2V
12 VDD 5.2V
11 SCL 5.2V
10 SYNC I/O 5.1V
9 DATA I/O 2.5V
1 RESET 5.1V
2 EXT /INT 0V
3 BLC 1.4V
4 WLC 4.1V
5 VIDEO 2.8V
6 GND
7 TCR 1.0V
8 AS
C508 0.01
C501 0.01
C502 0.01
C503 0.01
R501 20K
L501 10
TR5 DTA124TS
0.1V
5.1V
4.4V
R4 1K
4.4V
TR2 2SB1425
5.1V
R5 2.2K
5.1V
TR3 DTC144ES
0.1V
5.1V
IDL12V
L251 10
C251 0.01
C252 47/16
R257 82K
R258 39K
TR251 2SC1740S
R251 100
3.7V
3.1V
10.9V
R253 1K
11.5V
TR252 2SA933S
5.8V
R252 750
R254 750
C253 10P (CH)
R255 180
R256 1K
6.5V
5.8V
TR253 2SA933S
C1 47/16
WP2
4 PDC IN
3 GND
2 NC
1 NC
TO MAIN PCB 3/3 P203
PDC PCB V1174A5160

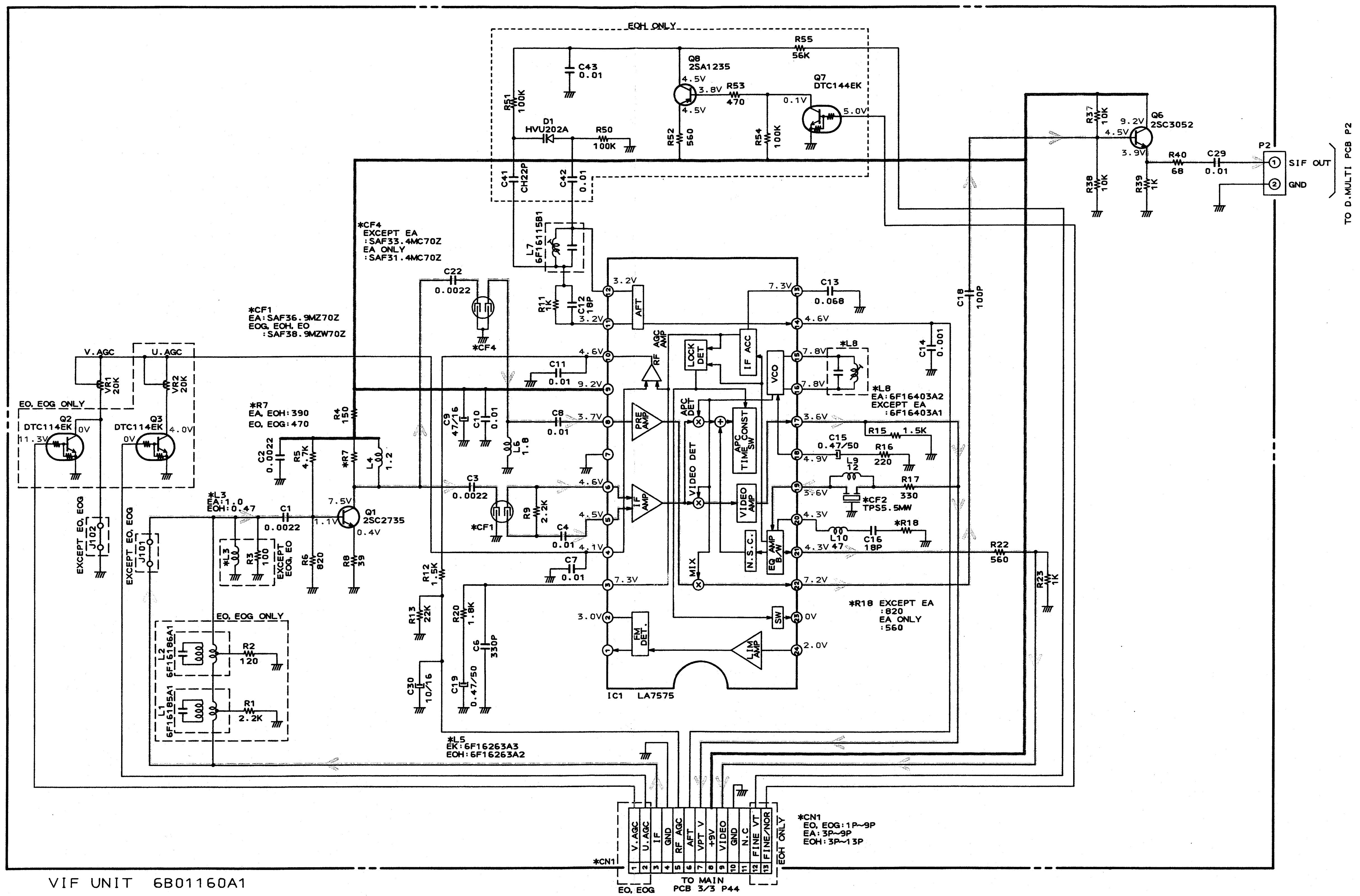
▬ : B (POWER SUPPLY) LINE

INDICATED VOLTAGES WERE
MEASURED DURING E-E MODE.
(NO SIGNAL WAS BEING INPUT)

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W
ALL CAPACITORS IN µF (P=PF) 50WV (J)
BUT 0.01µF IS 16WV (N)
ALL ELECTROLYTIC CAPACITORS IN µF/WV (M)
ALL INDUCTORS IN µH (K)
[M] IS MYLAR CAPACITOR

VS-G64SV-EOH-DNV
PDC
SCHEMATIC DIAGRAM
NO.18-13 V117213M
A3


V1174A5160
WP1
IC401
22 25 30 35 40 42
21 15 10 5 1
TR5
R5
TR2
JS61
JS63
JS60
R4
TR3
L401
JS10
JS5
C402
C401
IB401
JS8
X401
JS32
C4
D1
R6
L501
IC501
8 9
10
5
15
16
C505
C504
C502
C501
C508
C503
X501
C506
C507
JS18
JS16
JS59
JS15
JS201
JS2
JS7
JS202
JS31
JS64
JS65
JS20
P1
5 3 1
JS51
JS55
L251
C251
C252
JS53
TR251
R253
R252
R254
C253
JS9
TR252
WP2
1
4
JS39
R251
JS52
R256
R255
JS36
R258
R257
TR253
C11
JS13
PDC PCB V1174A5160 (SV-EOH-DNV ONLY)


EOH ONLY
C43 0.01
Q8 2SA1235
R55 56K
R53 470
Q7 DTC144EK
R51 100K
D1 HVU202A
R50 100K
R52 560
R54 100K
4.5V
3.8V
0.1V
5.0V
C41 CH22P
C42 0.01
L7 6F161158I
R11 1K
C12 18P
*CF4
EXCEPT EA
:SAF33.4MC70Z
EA ONLY
:SAF31.4MC70Z
C22 0.0022
*CF1
EA:SAF36.9MZ70Z
EOG, EOH, EO
:SAF38.9MZW70Z
V.AGC
U.AGC
VR1 20K
VR2 20K
EO, EOG ONLY
Q2 DTC114EK
Q3 DTC114EK
11.3V
0V
4.0V
*R7
EA, EOH:390
EO, EOG:470
R4 150
C9 47/16
C10 0.01
C11 0.01
C8 0.01
L6 1.8
C2 0.0022
R5 4.7K
L4 1.2
C3 0.0022
R9 2.2K
C4 0.01
C7 0.01
*L3
EA:1.0
EOH:0.47
C1 0.0022
Q1 2SC2735
7.5V
1.1V
0.4V
R3 100
R6 820
R8 39
EXCEPT EO, EOG
J102
J101
EXCEPT EOG, EO
R12 1.5K
R13 22K
R20 1.8K
C6 330P
C30 10/16
C19 0.47/50
EO, EOG ONLY
L2 6F16186A1
R2 120
L1 6F16185A1
R1 2.2K
*L5
EK:6F16263A3
EOH:6F16263A2
AFT
AGC AMP
RF
PRE AMP
IF AMP
LOCK DET
IF ACC
VCO
APC DET
APC TIME CONST SW
VIDEO DET
VIDEO AMP
N.S.C.
EQ AMP B.W
MIX
SW
FM DET.
LIM AMP
IC1 LA7575
3.2V
4.6V
9.2V
3.7V
4.5V
4.1V
7.3V
3.0V
7.8V
3.6V
4.9V
4.3V
7.2V
2.0V
C13 0.068
C14 0.001
*L8
EA:6F16403A2
EXCEPT EA
:6F16403A1
R15 1.5K
C15 0.47/50
R16 220
L9 12
R17 330
*CF2 TPS5.5MW
L10 47
C16 18P
*R18
*R18 EXCEPT EA
:820
EA ONLY
:560
C18 100P
R22 560
R23 1K
R37 10K
R38 10K
Q6 2SC3052
9.2V
4.5V
3.9V
R39 1K
R40 68
C29 0.01
P2
SIF OUT
GND
TO D.MULTI PCB P2
*CN1
V.AGC
U.AGC
IF
GND
RF AGC
AFT
VPT V
+9V
VIDEO
GND
N.C
VT
FINE/NOR
EOH ONLY
EO, EOG ONLY
TO MAIN PCB 3/3 P44
*CN1
EO, EOG:1P~9P
EA:3P~9P
EOH:3P~13P

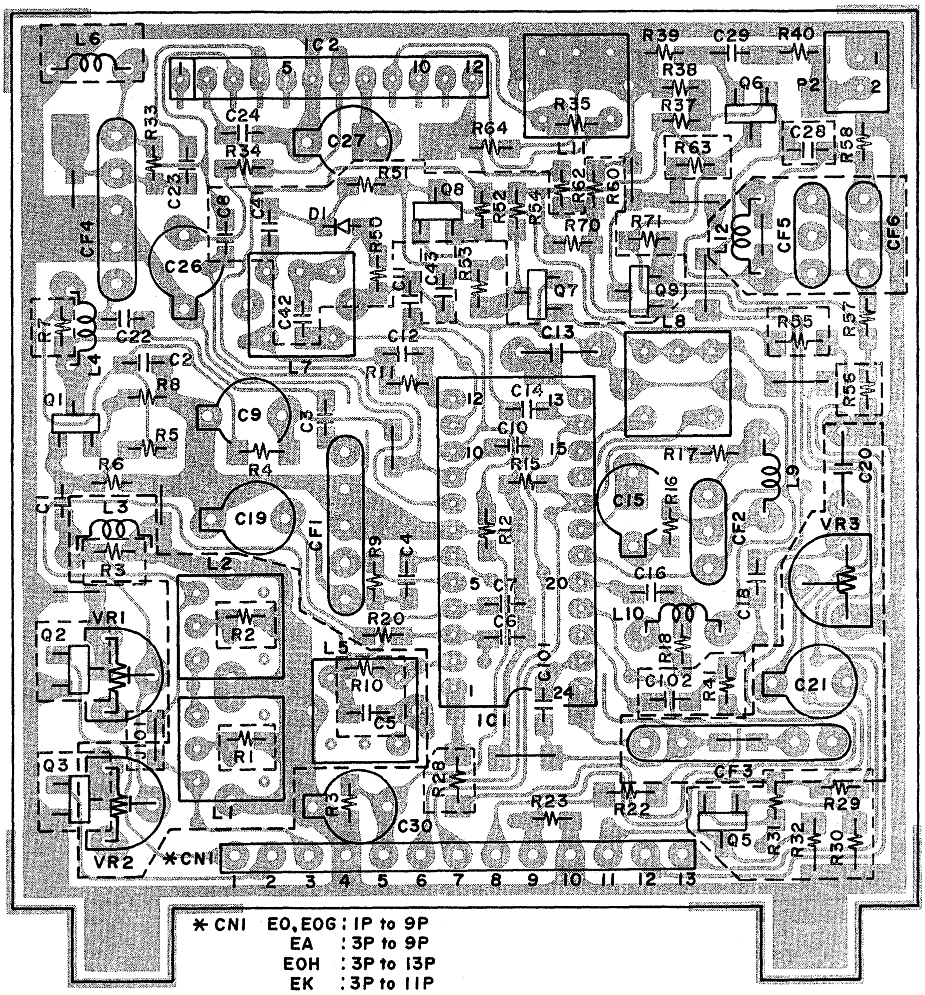
VIF UNIT 6B01160A1

INDICATED VOLTAGES WERE MEASURED
DURING E-E (STOP) MODE.
(WHEN A STATION WAS BEING RECEIVED)

━━ :B (POWER SUPPLY)LINE
┅┅ :IF SIGNAL LINE
┄┄ :VIDEO SIGNAL LINE

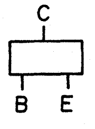
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μF
ALL INDUCTORS IN μH
ALL DIODES ARE 1SS131T

VS-G60EA-D/EO-D/EOH-D
VS-G65EOG-D/P-EOG-D
VIF UNIT
SCHEMATIC DIAGRAM
NO.18-14 V117214M
A2


L6
IC2
1
5
10
12
R33
C24
R34
C27
C23
C8
C41
D1
R51
R50
CF4
C26
C42
C11
C43
Q8
R52
R53
R54
R64
R35
R39
C29
R40
R38
R37
Q6
P2
2
R62
R60
R70
R63
R71
Q7
Q9
C28
R58
L12
CF5
CF6
C13
L8
R55
R57
R56
R7
L4
C22
C2
Q1
R8
R5
C9
C3
R6
R4
C12
L7
R11
C14
13
C10
15
R15
12
10
C19
CF1
R9
C4
R12
C1
L3
R3
L2
R2
VR1
Q2
Q3
VR2
R1
L1
R20
L5
R10
C5
C6
C7
20
5
C101
24
IC1
R28
C30
R23
R22
C15
R16
R17
L9
C20
CF2
VR3
C16
L10
C18
R18
C102
R41
C21
CF3
R29
Q5
R31
R32
R30
*CN1
1
2
3
4
5
6
7
8
9
10
11
12
13

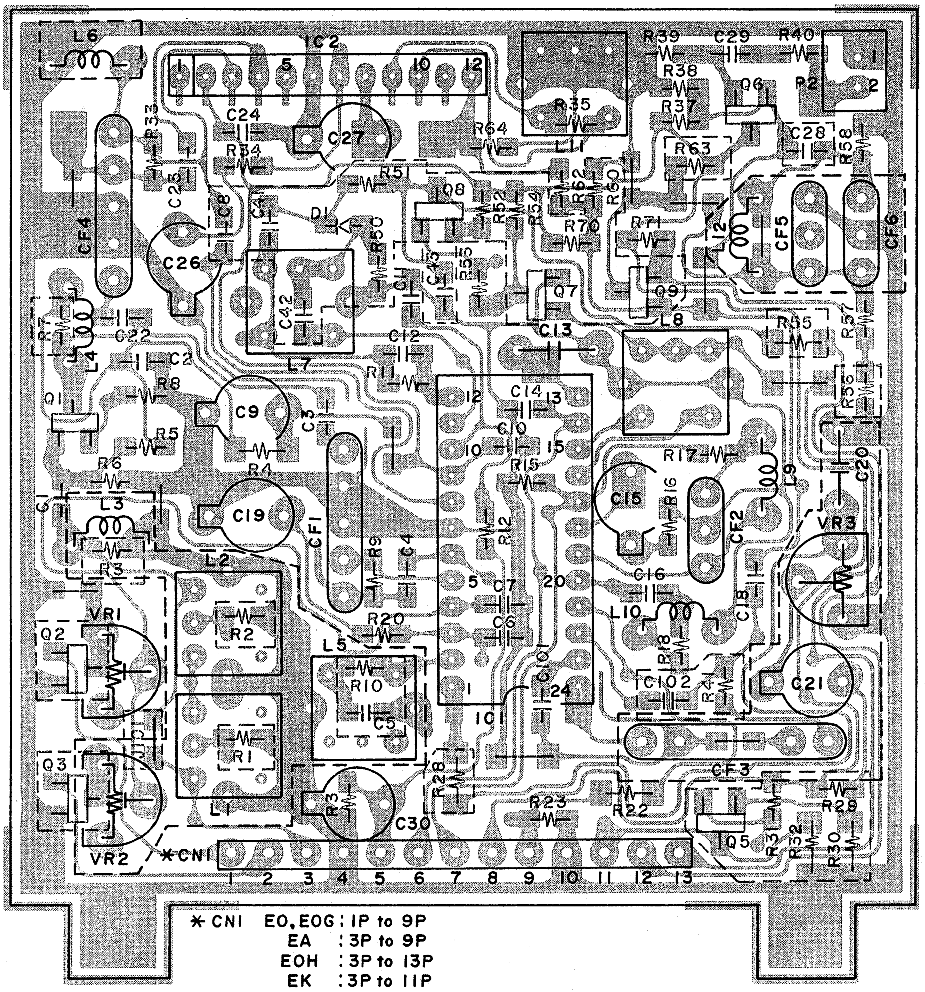
*CN1		
EO, EOG	:	1P to 9P
EA	:	3P to 9P
EOH	:	3P to 13P
EK	:	3P to 11P

VIF UNIT 6B01160A1



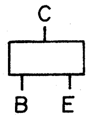
CHIP TRANSISTOR

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER. REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT PARTS INFORMATION.


L6
IC2
1
5
10
12
R39
C29
R40
R38
Q6
P2
2
R35
R37
C24
C27
R64
L11
R63
C28
R58
R33
R34
R51
R62
R60
C23
C8
C41
D1
Q8
R52
R54
R70
R71
L12
CF5
CF6
CF4
C26
R50
C11
C43
R53
Q7
Q9
C42
C13
L8
R7
L4
C22
C2
C12
R55
R57
L7
R11
C14
13
R8
Q1
C9
C3
C10
15
R5
R4
R6
R36
R15
R17
C20
L9
C19
C15
R16
C1
L3
CF1
R9
C4
R12
CF2
VR3
R3
L2
5
C7
20
C16
Q2
VR1
R2
R20
C6
L10
R18
C18
L5
R10
C101
C102
R41
C21
C5
24
IC1
Q3
R1
R28
CF3
R3
C30
R23
R22
R29
L1
Q5
R31
R32
R30
VR2
*CN1
1
2
3
4
5
6
7
8
9
10
11
12
13

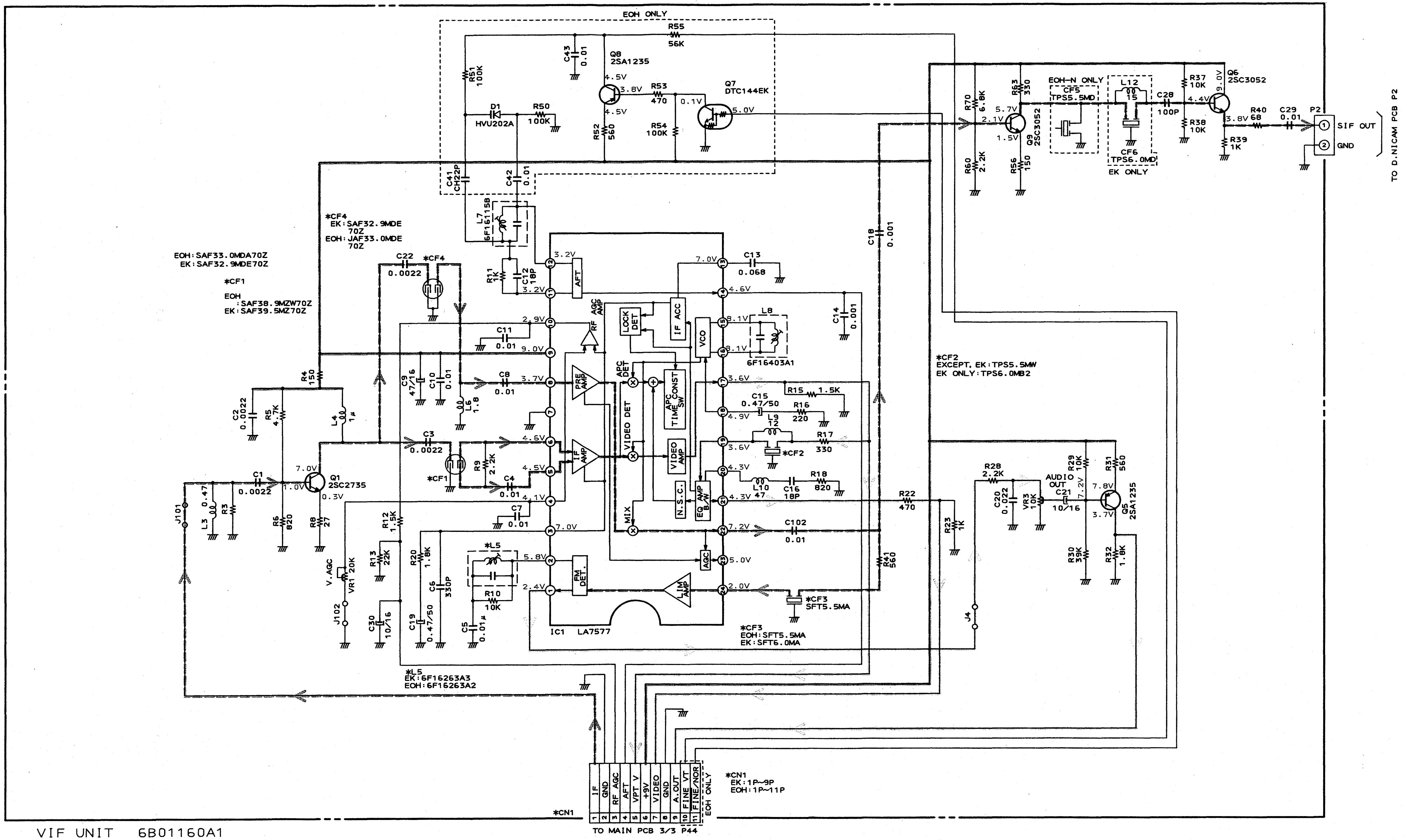
*CN1 EO, EOG : 1P to 9P
EA : 3P to 9P
EOH : 3P to 13P
EK : 3P to 11P

VIF UNIT 6B01160A1



CHIP TRANSISTOR

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER. REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT PARTS INFORMATION.


EOH ONLY
R55 56K
C43 0.01
Q8 2SA1235
R51 100K
D1 HVU202A
R50 100K
R53 470
Q7 DTC144EK
R52 560
R54 100K
C41 CH22P
C42 0.01
L7 6F16115B
R11 1K
C12 18P
*CF4 EK:SAF32.9MDE70Z EOH:JAF33.0MDE70Z
EOH:SAF33.0MDA70Z EK:SAF32.9MDE70Z
*CF1 EOH :SAF38.9MZW70Z EK:SAF39.5MZ70Z
C22 0.0022
C11 0.01
C9 47/16
C10 0.01
C8 0.01
L6 1.8
R4 150
C2 0.0022
R5 4.7K
L4 1μ
C3 0.0022
R9 2.2K
C4 0.01
C7 0.01
C1 0.0022
Q1 2SC2735
J101
L3 0.47
R3
R6 820
R8 27
R12 1.5K
V.AGC
VR1 20K
R13 22K
R20 1.8K
C6 330P
*L5
R10 10K
C5 0.01μ
J102
C30 10/16
C19 0.47/50
*L5 EK:6F16263A3 EOH:6F16263A2
AFT
RF AGC AMP
PRE AMP
IF AMP
FM DET.
LIM AMP
LOCK DET
IF ACC
VCO
APC DET
APC TIME CONST SW
VIDEO DET
VIDEO AMP
MIX
N.S.C.
EQ AMP B/W
AGC
IC1 LA7577
C13 0.068
C14 0.001
L8 6F16403A1
R15 1.5K
C15 0.47/50
R16 220
L9 12
R17 330
*CF2
R18 820
L10 47
C16 18P
C102 0.01
*CF3 SFT5.5MA
*CF3 EOH:SFT5.5MA EK:SFT6.0MA
C18 0.001
*CF2 EXCEPT, EK:TPS5.5MW EK ONLY:TPS6.0MB2
R41 560
R22 470
R23 1K
J4
R28 2.2K
C20 0.022
VR3 10K
AUDIO OUT
C21 10/16
R29 10K
R31 560
Q5 2SA1235
R30 39K
R32 1.8K
R70 6.8K
R60 2.2K
R63 330
Q9 2SC3052
R56 150
EOH-N ONLY CF5 TPS5.5MD
L12 15
CF6 TPS6.0MD
EK ONLY
C28 100P
R37 10K
R38 10K
Q6 2SC3052
R39 1K
R40 68
C29 0.01
P2
SIF OUT
GND
TO D.NICAM PCB P2
*CN1
IF GND RF AGC AFT V VPT V +9V VIDEO GND A.OUT FINE VT FINE/NOR EOH ONLY
*CN1 EK:1P~9P EOH:1P~11P
TO MAIN PCB 3/3 P44

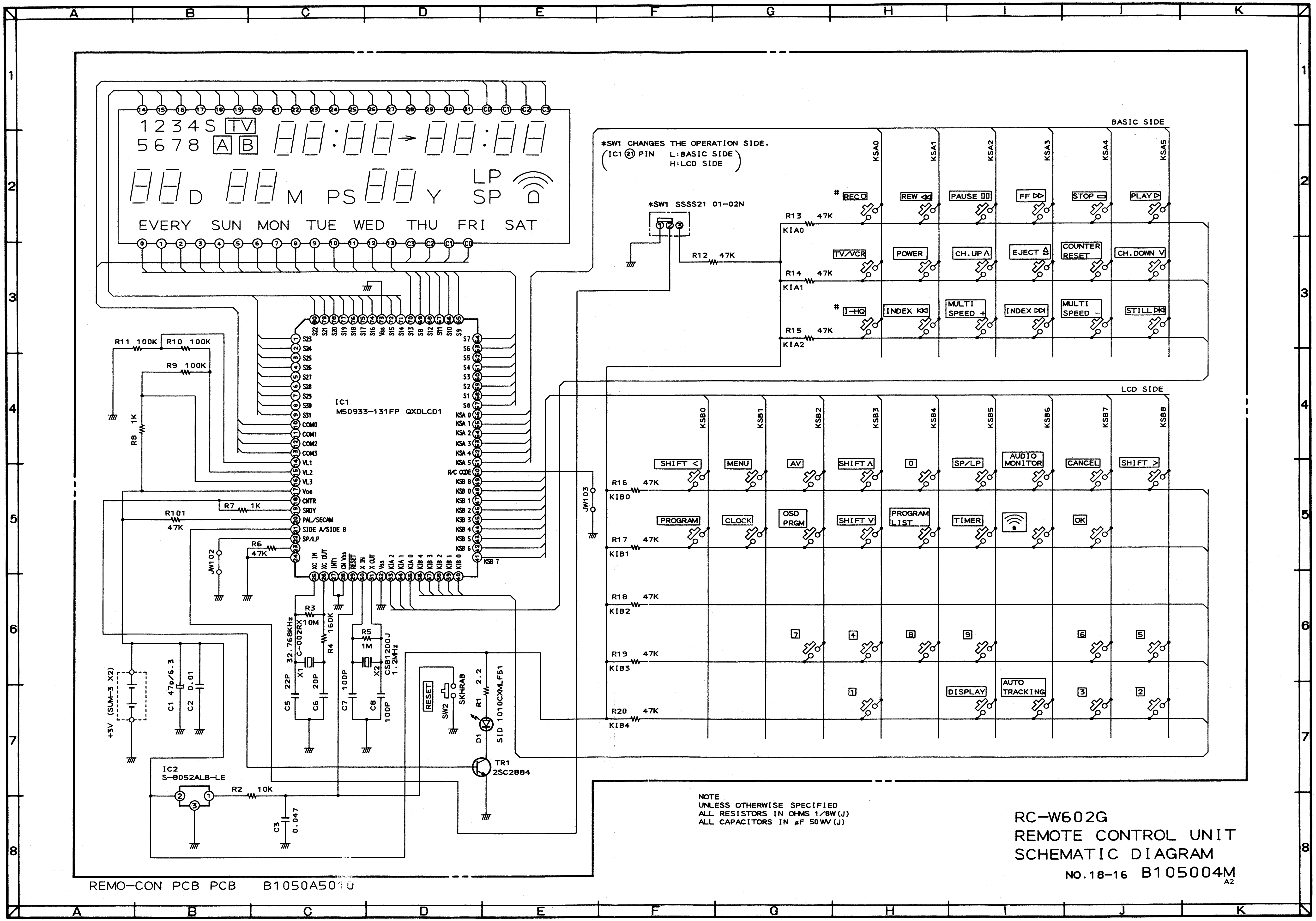
VIF UNIT 6B01160A1

INDICATED VOLTAGES WERE MEASURED
DURING E-E (STOP) MODE.
(WHEN A STATION WAS BEING RECEIVED)

━━━━ : B (POWER SUPPLY) LINE
▬ ▬ ▬ : IF SIGNAL LINE
─ ─ ─ : AUDIO SIGNAL LINE
═ ═ ═ : VIDEO SIGNAL LINE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μF
ALL INDUCTORS IN μH

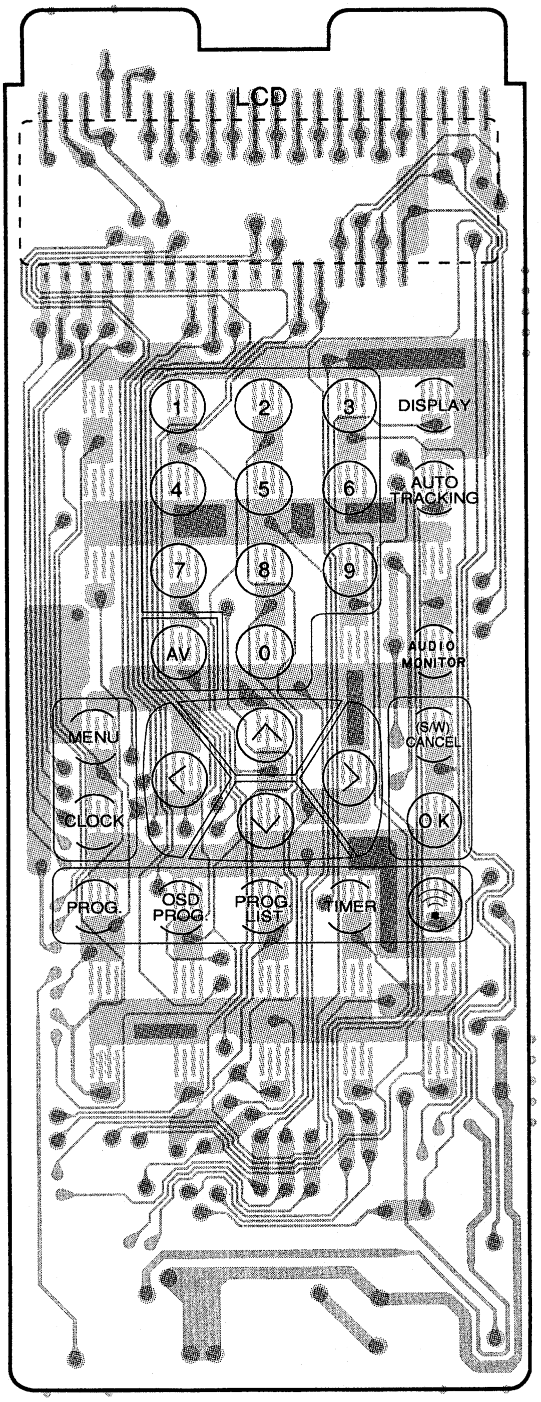
VS-G60EOH-N/EK-N
VS-G64EOH-DN/EK-N/SV-EOH-DNV
VIF UNIT
SCHEMATIC DIAGRAM
NO.18-15 V117215M
A2


A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
8
1234S TV
5678 A B
D M PS Y LP SP
EVERY SUN MON TUE WED THU FRI SAT
*SW1 CHANGES THE OPERATION SIDE.
(IC1 ㉑ PIN L:BASIC SIDE H:LCD SIDE)
*SW1 SSSS21 01-02N
BASIC SIDE
LCD SIDE
KSA0
KSA1
KSA2
KSA3
KSA4
KSA5
# RECO
REW ⏪
PAUSE ⏸
FF ⏩
STOP
PLAY ▷
TV/VCR
POWER
CH.UP ∧
EJECT
COUNTER RESET
CH.DOWN ∨
# I-HQ
INDEX ⏮
MULTI SPEED +
INDEX ⏭
MULTI SPEED −
STILL
R13 47K
KIA0
R14 47K
KIA1
R15 47K
KIA2
R12 47K
KSB0
KSB1
KSB2
KSB3
KSB4
KSB5
KSB6
KSB7
KSB8
SHIFT <
MENU
AV
SHIFT ∧
0
SP/LP
AUDIO MONITOR
CANCEL
SHIFT >
PROGRAM
CLOCK
OSD PRGM
SHIFT ∨
PROGRAM LIST
TIMER
OK
7
4
8
9
6
5
1
DISPLAY
AUTO TRACKING
3
2
R16 47K
KIB0
R17 47K
KIB1
R18 47K
KIB2
R19 47K
KIB3
R20 47K
KIB4
JW103
IC1
M50933-131FP QXDLCD1
R11 100K
R10 100K
R9 100K
R8 1K
R101 47K
R7 1K
R6 47K
JW102
R3 10M
R4 160K
X1 32.768KHz C-002RX
C5 22P
C6 20P
R5 1M
X2 CSB1200J 1.2MHz
C7 100P
C8 100P
+3V (SUM-3 X2)
C1 47μ/6.3
C2 0.01
RESET
SW2 SKHRAB
R1 2.2
D1 SID 1010CXMLF51
TR1 2SC2884
IC2 S-8052ALB-LE
R2 10K
C3 0.047

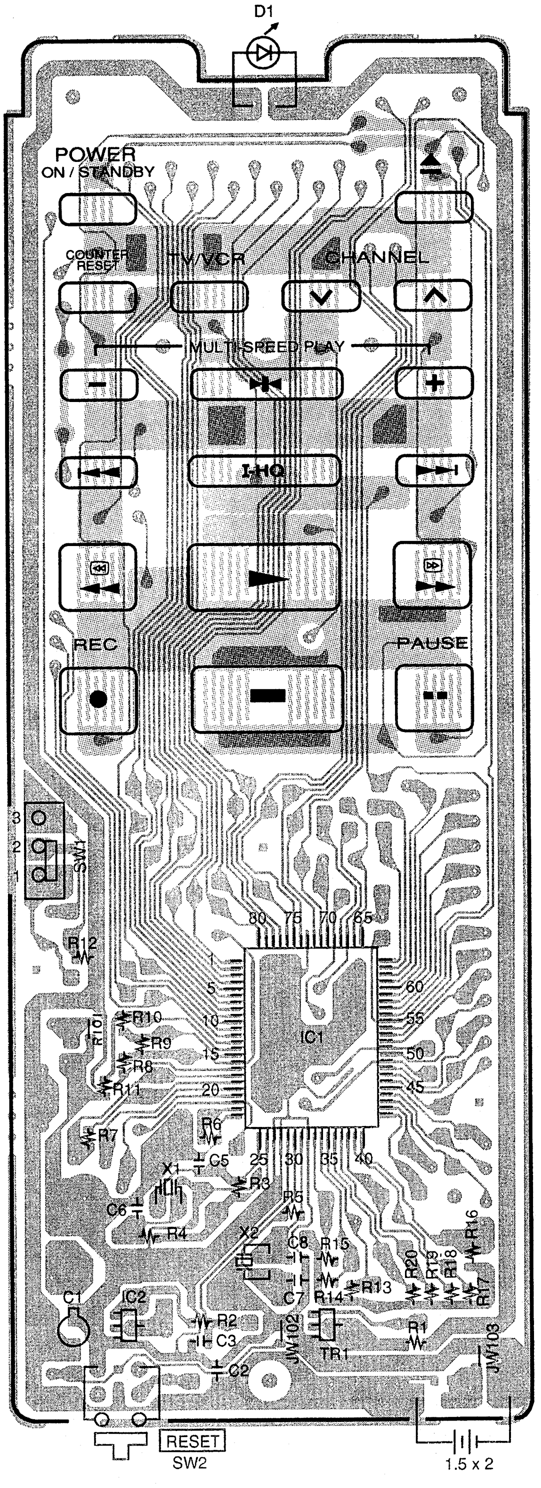
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W (J)
ALL CAPACITORS IN μF 50WV (J)

RC-W602G
REMOTE CONTROL UNIT
SCHEMATIC DIAGRAM
NO.18-16 B105004M
A2

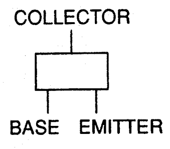
REMO-CON PCB PCB B1050A5010

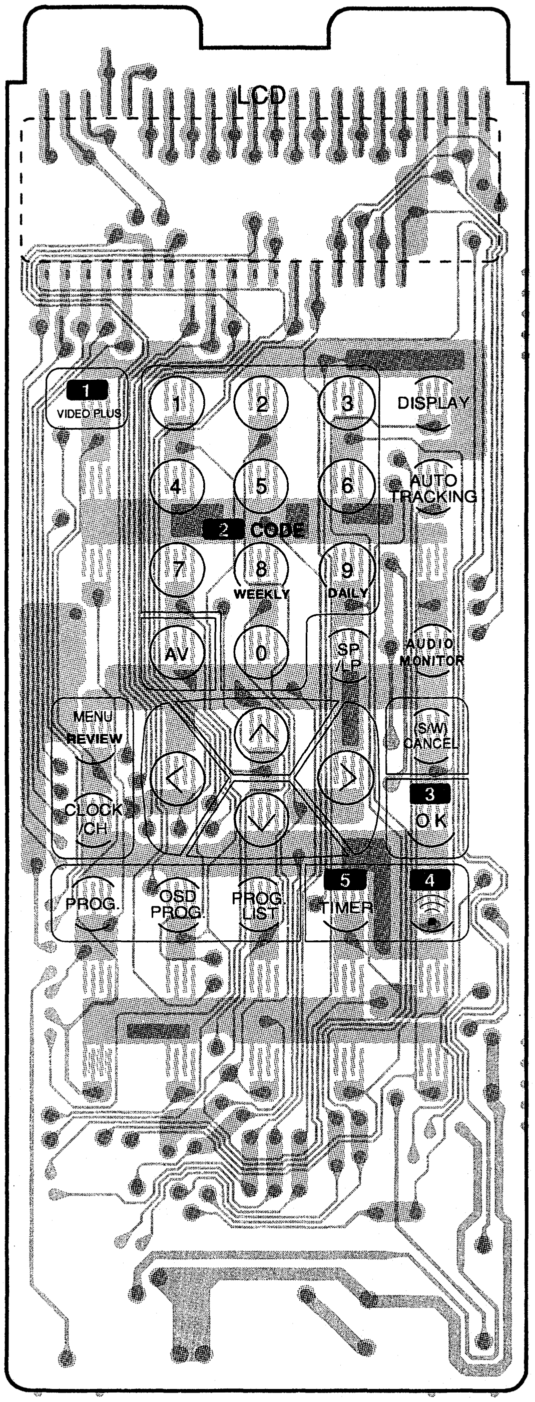

LCD
1
2
3
DISPLAY
4
5
6
AUTO TRACKING
7
8
9
AV
0
AUDIO MONITOR
MENU
(S/W) CANCEL
CLOCK
OK
PROG.
OSD PROG.
PROG. LIST
TIMER

REMO-CON PCB B1050A5010 (J1)
(SWITCH LOCATION)

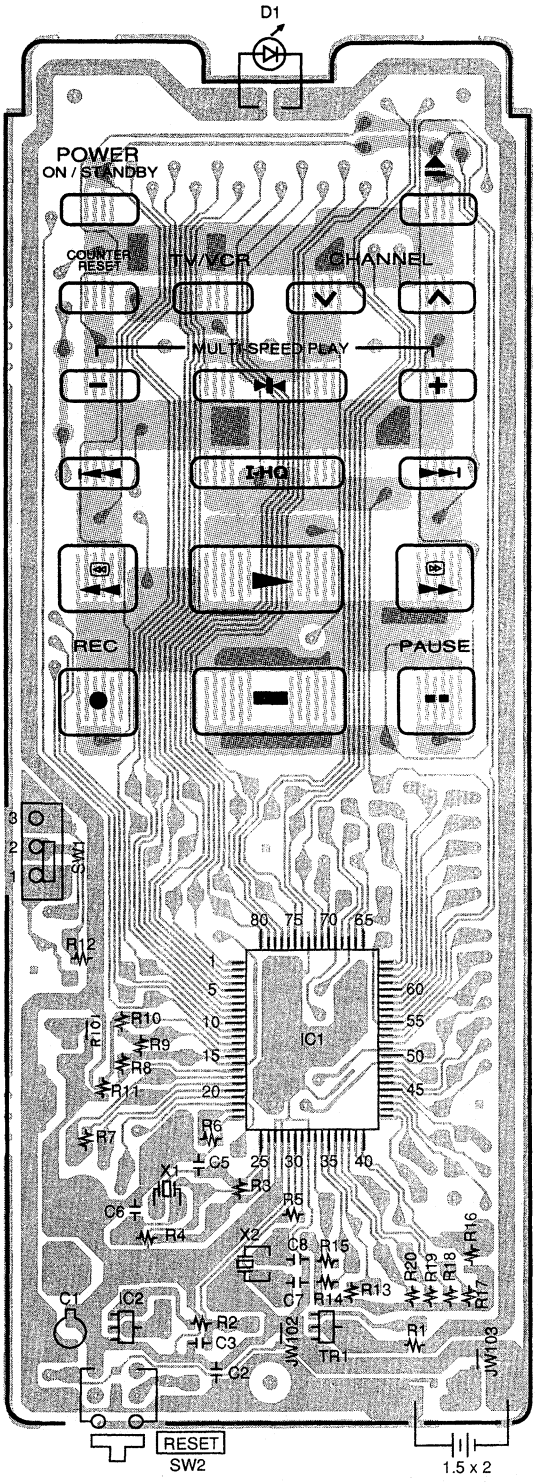

D1
POWER
ON / STANDBY
COUNTER RESET
TV/VCR
CHANNEL
MULTI-SPEED PLAY
I-HQ
REC
PAUSE
3
2
1
SW1
R12
80
75
70
65
1
5
10
15
20
60
55
50
45
25
30
35
40
IC1
R10
R101
R9
R8
R11
R7
R6
X1
C5
R3
C6
R4
R5
X2
C8
R15
C7
R14
R13
R20
R19
R18
R17
R16
C1
IC2
R2
C3
C2
JW102
TR1
R1
JW103
RESET
SW2
1.5 x 2

REMO-CON PCB B1050A5010 (J1)
(PARTS and SWITCH LOCATION)

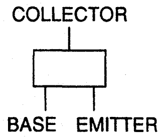

COLLECTOR
BASE
EMITTER

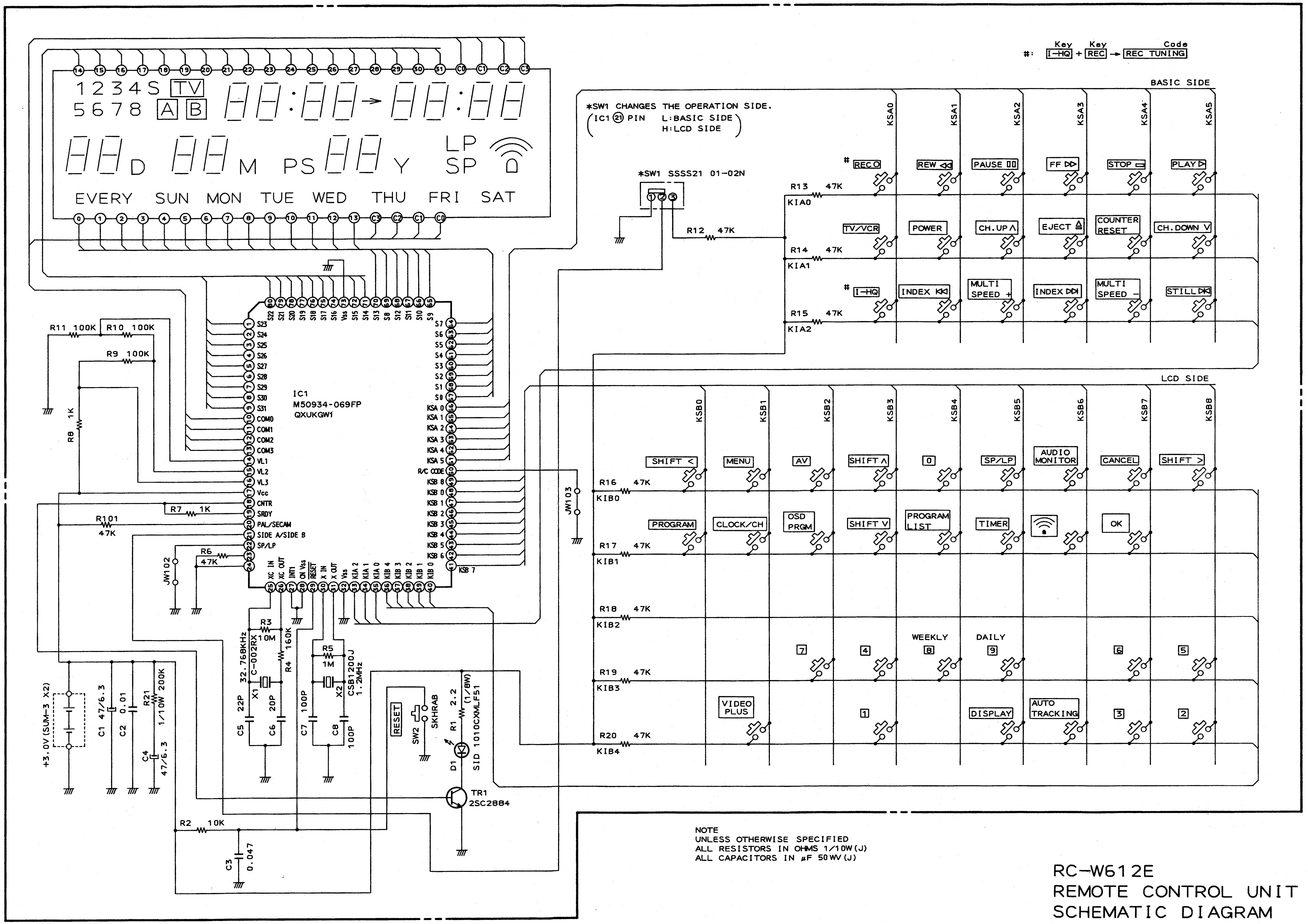

LCD
1
VIDEO PLUS
1
2
3
DISPLAY
4
5
6
AUTO TRACKING
2 CODE
7
8
WEEKLY
9
DAILY
AV
0
SP /LP
AUDIO MONITOR
MENU REVIEW
(S/W) CANCEL
3
OK
CLOCK /CH
PROG.
OSD PROG.
PROG. LIST
5
TIMER
4

REMO-CON PCB B1050A5010 (J1)
(SWITCH LOCATION)


D1
POWER
ON / STANDBY
COUNTER RESET
TV/VCR
CHANNEL
MULTI SPEED PLAY
I-HQ
REC
PAUSE
3
2
1
SW1
R12
80
75
70
65
1
5
10
15
20
60
55
50
45
IC1
25
30
35
40
R101
R10
R9
R8
R11
R7
R6
C5
X1
R3
R5
C6
R4
X2
C8
R15
C7
R14
R13
R20
R19
R18
R16
R17
C1
IC2
R2
C3
C2
JW102
TR1
R1
JW103
RESET
SW2
1.5 x 2

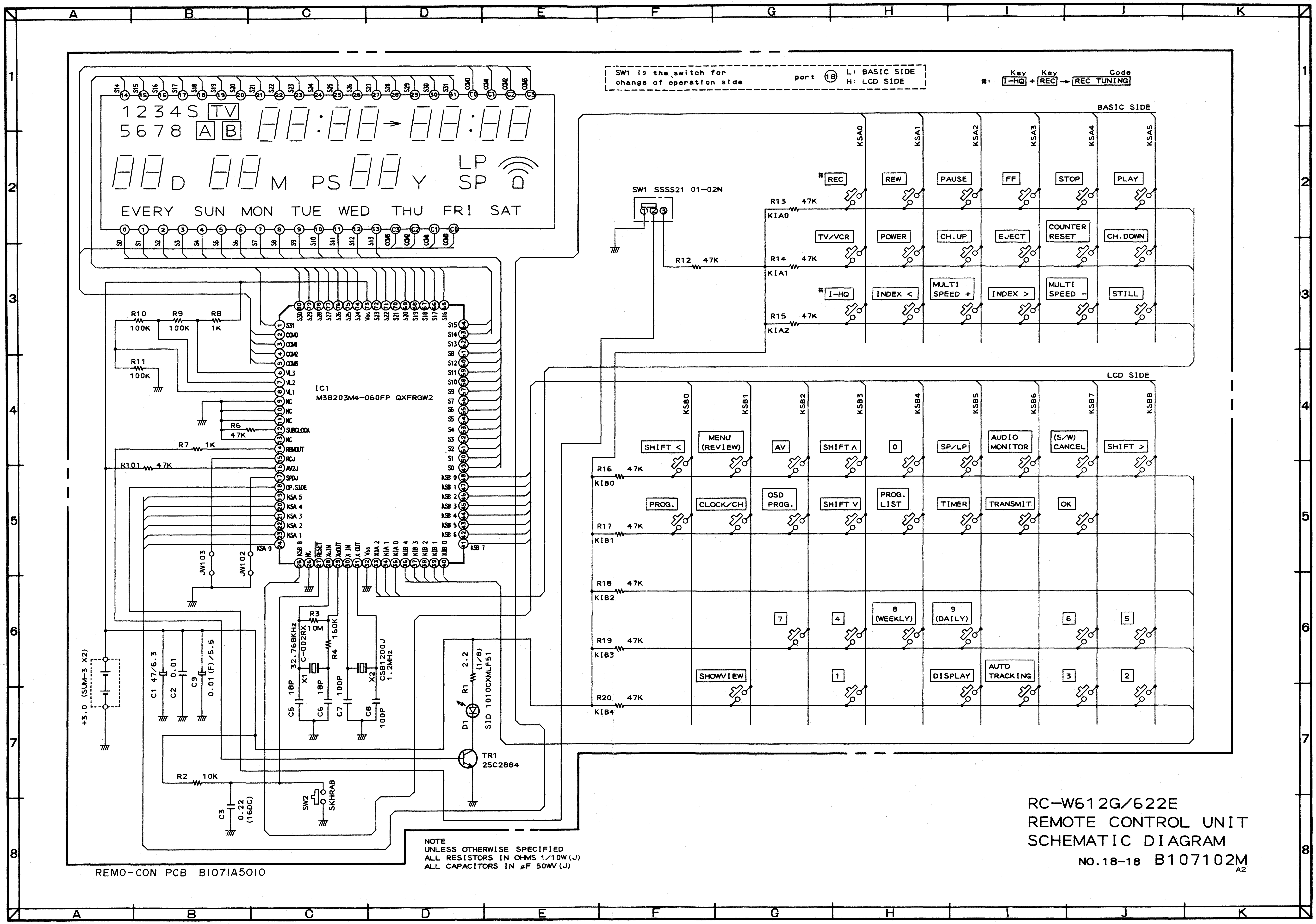
REMO-CON PCB B1050A5010 (J1)
(PARTS and SWITCH LOCATION)


COLLECTOR
BASE
EMITTER


#: Key I-HQ + Key REC → Code REC TUNING
1234S TV
5678 A B
D M PS Y LP SP
EVERY SUN MON TUE WED THU FRI SAT
*SW1 CHANGES THE OPERATION SIDE.
(IC1 ㉑ PIN L:BASIC SIDE H:LCD SIDE)
*SW1 SSSS21 01-02N
BASIC SIDE
KSA0 KSA1 KSA2 KSA3 KSA4 KSA5
# RECO
REW ◁◁
PAUSE ▯▯
FF ▷▷
STOP ▭
PLAY ▷
R13 47K KIA0
R12 47K
TV/VCR
POWER
CH.UP ∧
EJECT ≙
COUNTER RESET
CH.DOWN ∨
R14 47K KIA1
# I-HQ
INDEX ◁◁
MULTI SPEED +
INDEX ▷▷
MULTI SPEED −
STILL ▷|
R15 47K KIA2
LCD SIDE
KSB0 KSB1 KSB2 KSB3 KSB4 KSB5 KSB6 KSB7 KSB8
SHIFT <
MENU
AV
SHIFT ∧
0
SP/LP
AUDIO MONITOR
CANCEL
SHIFT >
R16 47K KIB0
PROGRAM
CLOCK/CH
OSD PRGM
SHIFT V
PROGRAM LIST
TIMER
OK
R17 47K KIB1
R18 47K KIB2
7 4 8 9 6 5
WEEKLY DAILY
R19 47K KIB3
VIDEO PLUS
1
DISPLAY
AUTO TRACKING
3 2
R20 47K KIB4
JW103
IC1 M50934-069FP QXUKGW1
S22 S21 S20 S19 S18 S17 S16 Vss S15 S14 S13 S12 S8 S11 S10 S9
S23 S24 S25 S26 S27 S28 S29 S30 S31 COM0 COM1 COM2 COM3 VL1 VL2 VL3 Vcc CNTR SRDY PAL/SECAM SIDE A/SIDE B SP/LP
S7 S6 S5 S4 S3 S2 S1 S0 KSA 0 KSA 1 KSA 2 KSA 3 KSA 4 KSA 5 R/C CODE KSB 8 KSB 0 KSB 1 KSB 2 KSB 3 KSB 4 KSB 5 KSB 6 KSB 7
XC IN XC OUT INT1 CN Vss RESET X IN X OUT Vss KIA 2 KIA 1 KIA 0 KIB 4 KIB 3 KIB 2 KIB 1 KIB 0
R11 100K R10 100K R9 100K
R8 1K
R7 1K
R101 47K
R6 47K
JW102
R3 10M
R4 160K
32.768KHz X1 C-002RX
C5 22P C6 20P
R5 1M
X2 CSB1200J 1.2MHz
C7 100P C8 100P
RESET SW2 SKHRAB
R1 2.2 (1/8W)
D1 SID 1010CXMLF51
TR1 2SC2884
+3.0V (SUM-3 X2)
C1 47/6.3 C2 0.01 R21 1/10W 200K
C4 47/6.3
R2 10K
C3 0.047
REMO-CON PCB B1050A5010

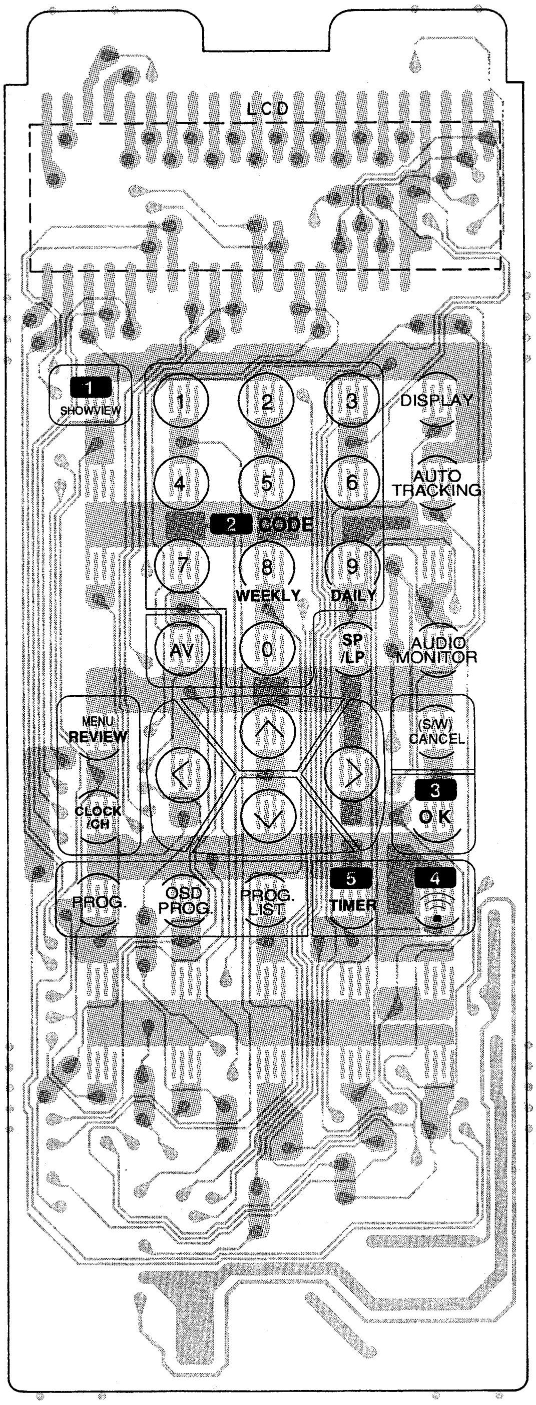
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/10W (J)
ALL CAPACITORS IN μF 50WV (J)

RC-W612E
REMOTE CONTROL UNIT
SCHEMATIC DIAGRAM
NO.18-17 B106503M
A2

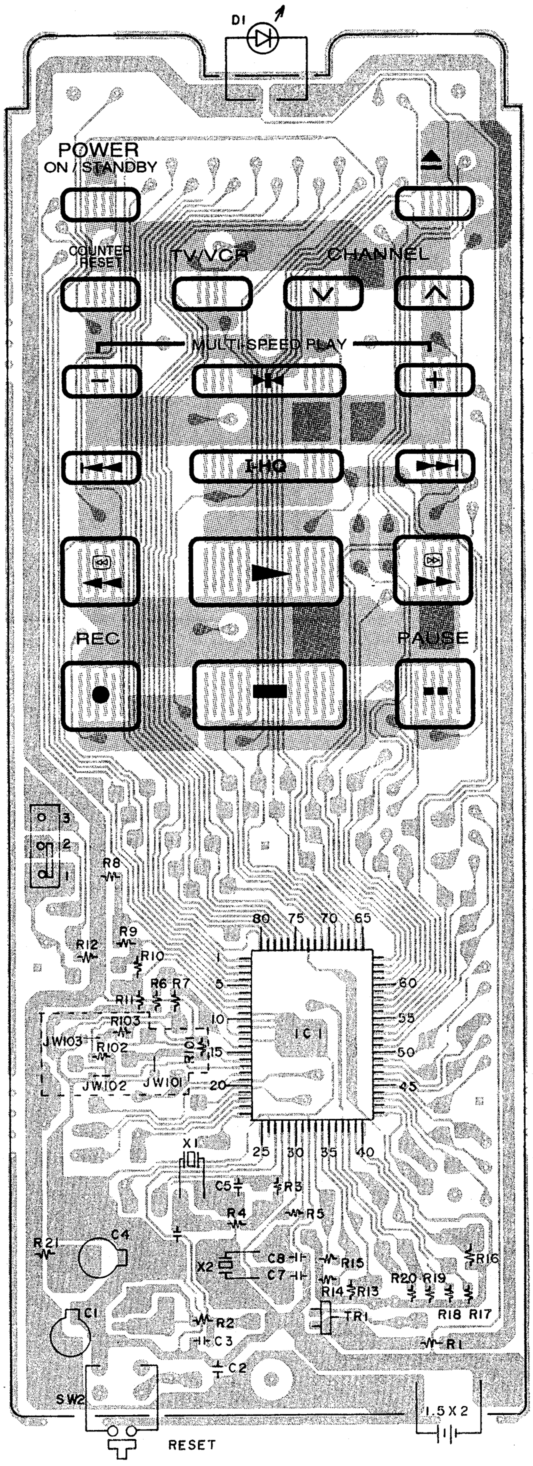

SW1 is the switch for change of operation side
port ⑱ L: BASIC SIDE H: LCD SIDE
#: Key I-HQ + Key REC → Code REC TUNING
BASIC SIDE
LCD SIDE
KSA0
KSA1
KSA2
KSA3
KSA4
KSA5
REC
REW
PAUSE
FF
STOP
PLAY
TV/VCR
POWER
CH.UP
EJECT
COUNTER RESET
CH.DOWN
I-HQ
INDEX <
MULTI SPEED +
INDEX >
MULTI SPEED −
STILL
KSB0
KSB1
KSB2
KSB3
KSB4
KSB5
KSB6
KSB7
KSB8
SHIFT <
MENU (REVIEW)
AV
SHIFT ∧
0
SP/LP
AUDIO MONITOR
(S/W) CANCEL
SHIFT >
PROG.
CLOCK/CH
OSD PROG.
SHIFT V
PROG. LIST
TIMER
TRANSMIT
OK
7
4
8 (WEEKLY)
9 (DAILY)
6
5
SHOWVIEW
1
DISPLAY
AUTO TRACKING
3
2
SW1 SSSS21 01-02N
R12 47K
R13 47K KIA0
R14 47K KIA1
R15 47K KIA2
R16 47K KIB0
R17 47K KIB1
R18 47K KIB2
R19 47K KIB3
R20 47K KIB4
IC1 M38203M4-060FP QXFRGW2
R10 100K
R9 100K
R8 1K
R11 100K
R6 47K
R7 1K
R101 47K
JW103
JW102
R3 10M
R4 160K
X1 32.768KHz C-002RX
X2 CSB1200J 1.2MHz
C5 18P
C6 18P
C7 100P
C8 100P
C1 47/6.3
C2 0.01
C9 0.01(F)/5.5
+3.0 (SUM-3 X2)
R1 2.2 (1/8)
D1 SID 1010CXMLF51
TR1 2SC2884
R2 10K
C3 0.22 (16DC)
SW2 SKHRAB
1 2 3 4 S TV 5 6 7 8 A B
D M PS Y LP SP
EVERY SUN MON TUE WED THU FRI SAT
REMO-CON PCB B1071A5010

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/10W(J)
ALL CAPACITORS IN µF 50WV(J)

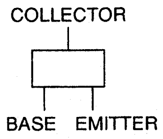
RC-W612G/622E
REMOTE CONTROL UNIT
SCHEMATIC DIAGRAM
NO.18-18 B107102M
A2


LCD
1
SHOWVIEW
1
2
3
DISPLAY
4
5
6
AUTO TRACKING
2 CODE
7
8
9
WEEKLY
DAILY
AV
0
SP /LP
AUDIO MONITOR
MENU REVIEW
(S/W) CANCEL
3
OK
CLOCK /CH
5
4
PROG.
OSD PROG.
PROG. LIST
TIMER

REMO-CON PCB B1071A5010
(SWITCH LOCATION)

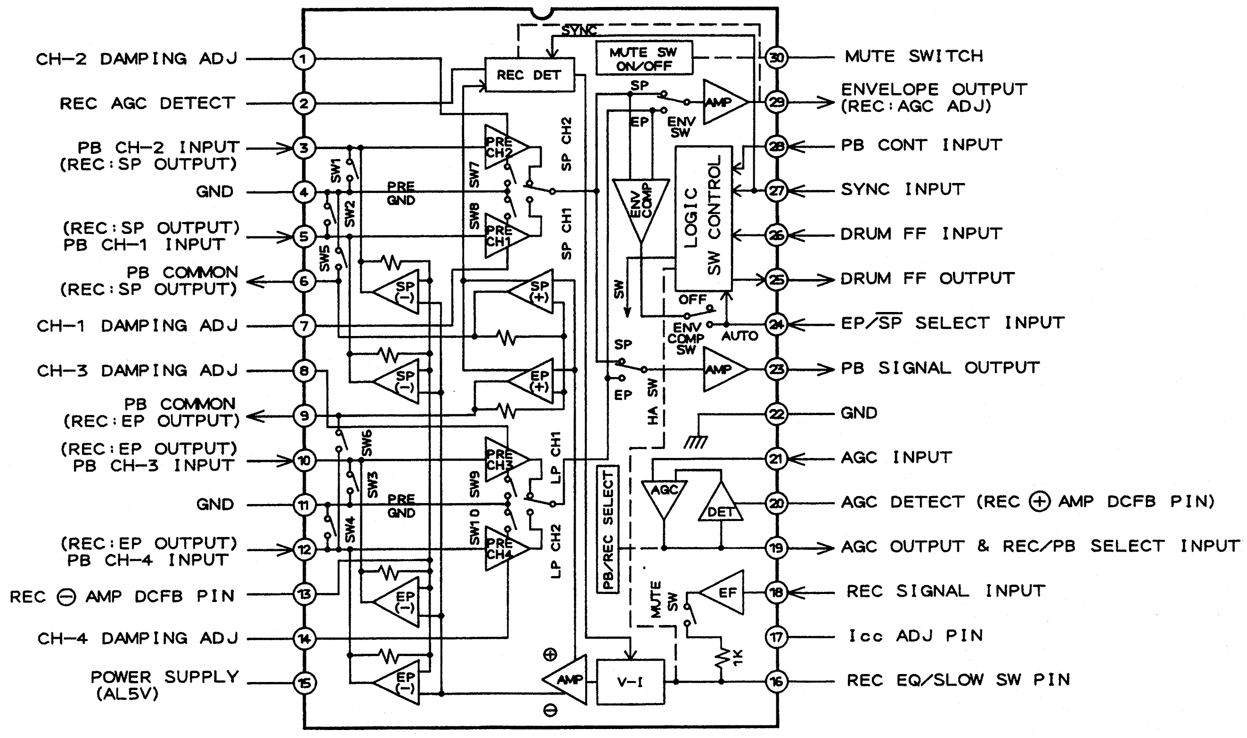

D1
POWER
ON / STANDBY
COUNTER RESET
TV/VCR
CHANNEL
MULTI-SPEED PLAY
I-HQ
REC
PAUSE
3
2
1
R8
R9
R10
R12
R6 R7
R11
R103
JW103
R102
R101
JW102
JW101
IC1
80
75
70
65
60
55
50
45
1
5
10
15
20
25
30
35
40
X1
C5
R3
R4
R5
R21
C4
X2
C8
C7
R15
R16
R14
R13
R20
R19
R18
R17
TR1
C1
R2
C3
R1
C2
SW2
1.5X2
RESET

REMO-CON PCB B1071A5010
(PARTS and SWITCH LOCATION)


COLLECTOR
BASE
EMITTER

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER. REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT PARTS INFORMATION.

AN3386NK-A (4 ch REC/HEAD AMP)


CH-2 DAMPING ADJ
REC AGC DETECT
PB CH-2 INPUT (REC:SP OUTPUT)
GND
(REC:SP OUTPUT) PB CH-1 INPUT
PB COMMON (REC:SP OUTPUT)
CH-1 DAMPING ADJ
CH-3 DAMPING ADJ
PB COMMON (REC:EP OUTPUT)
(REC:EP OUTPUT) PB CH-3 INPUT
GND
(REC:EP OUTPUT) PB CH-4 INPUT
REC ⊖ AMP DCFB PIN
CH-4 DAMPING ADJ
POWER SUPPLY (AL5V)
MUTE SWITCH
ENVELOPE OUTPUT (REC:AGC ADJ)
PB CONT INPUT
SYNC INPUT
DRUM FF INPUT
DRUM FF OUTPUT
EP/SP SELECT INPUT
PB SIGNAL OUTPUT
GND
AGC INPUT
AGC DETECT (REC ⊕ AMP DCFB PIN)
AGC OUTPUT & REC/PB SELECT INPUT
REC SIGNAL INPUT
Icc ADJ PIN
REC EQ/SLOW SW PIN
SYNC
MUTE SW ON/OFF
REC DET
SP
EP
AMP
ENV SW
PRE CH2
PRE CH1
PRE CH3
PRE CH4
SP CH2
SP CH1
LP CH1
LP CH2
SW1
SW2
SW3
SW4
SW5
SW6
SW7
SW8
SW9
SW10
PRE GND
ENV COMP
LOGIC SW CONTROL
SP (-)
SP (+)
EP (+)
EP (-)
SW
OFF
ENV COMP SW
AUTO
HA SW
PB/REC SELECT
AGC
DET
EF
MUTE SW
1K
V-I
⊕
⊖

LOGIC SW CONDITION

LOGIC INPUT					INTERNAL SWITCH CONDITION							IC OUTPUT	
PB CONT ㉘ PIN	LP/SP SELECT ㉔ PIN		DRUM FF IN ㉖ PIN	SLOW SW ⑯ PIN	SW1 & SW2 SP INPUT SW	SW3 & SW4 LP INPUT SW	HSW1	HSW2	HASW	ENV COMP SWITCH	ENV SW	PRE OUTPUT	DRUM FF OUT ㉕ PIN
HIGH (MANUAL)	HIGH (LP.MANU)		HIGH	OPEN	ON	OFF	CONTROLLED BY DRUM FF IN (㉖ PIN) HIGH:CH-2 LOW:CH-1	CONTROLLED BY DRUM FF IN (㉖ PIN) HIGH:CH-3 LOW:CH-4	LP SIDE	OFF	LP SIDE	CH 3	LOW
			LOW									CH 4	HIGH
	LOW (SP.MANU)		HIGH		OFF	ON			SP SIDE		SP SIDE	CH 2	
			LOW									CH 1	LOW
TYP. (AUTO)	ENV COMP OUTPUT	HIGH /LP1	HIGH			OFF			LP SIDE	AUTO	LP SIDE	CH 3	LOW
			LOW									CH 4	HIGH
		LOW /SP1	HIGH						SP SIDE			CH 2	
			LOW									CH 1	LOW
LOW (STILL & SLOW)	HIGH		HIGH						LP SIDE	OFF		CH 3	LOW
			LOW						SP SIDE			CH 1	
	LOW		HIGH									CH 2	HIGH
			LOW									CH 4	
	HIGH		HIGH	LOW					LP SIDE			CH 3	LOW
			LOW									CH 4	HIGH
	LOW		HIGH						SP SIDE			CH 2	
			LOW									CH 1	LOW

∗ SW5 ~ SW10 : ALWAYS ON WHEN PB MODE

BH7771KS (Hi-Fi & NORMAL AUDIO SIGNAL PROCESSOR)

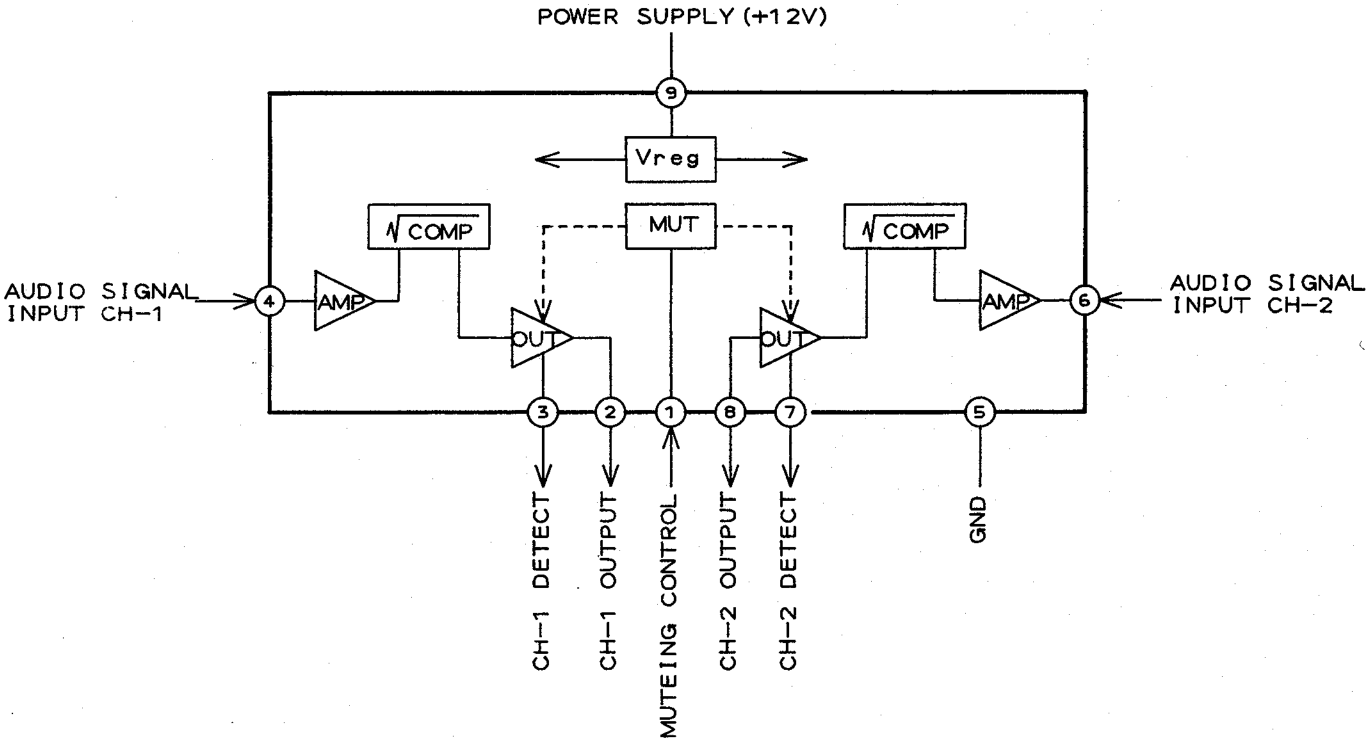
PIN No	PORT NAME	I/O	FUNCTION
1	REG GND	—	Regulator GND
2, 4	TU IN L, R, M	I	Tuner input (L, R , Mono)
5	EVR REF	O	Reference voltage output for Line EVR control
6, 8	LINE 3 IN L/R	I	Line 3 input L/R
7	MUTE CTRL	I	Muting control input for line output
9, 13	EVR CTR L, R	I	Line EVR control input
10, 12	LINE2 IN L/R	I	Line 2 input L/R
11, 15	INPUT CTRL1, 2	I	Input select control
14, 16	LINE1 IN L, R	I	Line 1 input L/R
17	HIFI ALC	—	Hi-Fi Audio ALC time constant set pin
18, 63	NR TC L/R	—	PNR attack/recovery time set pin
19, 62	WTNG1 L/R	—	Weighting characteristic set pin
20, 61	WTNG2 L/R	—	Weighting high frequency time constant set pin
21, 60	DC FB L/R	—	PNR reference operation level pin
22, 59	NR EMPH L/R	—	NR emphasis time constant set pin
23, 58	GND L/R	—	GND for PNR, MODEM
24, 57	FM EMPH L/R	—	FM emphasis time constant set pin
25, 56	HOLD2 L/R	—	Inclination control differential hold capacitor connecting pin
26, 55	HOLD1 L/R	—	Previous value hold capacitor connecting pin
27, 54	PNR I/O L, R	I/O	PNR processor input/output (EE : compressed output, PB : expanded output)
28, 53	MODEM I/O L, R	I/O	MODEM input/output (EE : modulation input, PB : demodulation output)
29, 52	MODEM I/O L, R	—	Power supply for MODEM
30, 51	VCO BF OUT L, R	—	FV adjust pin
31, 50	VCO IN L, R	I	VCO control current input
32, 49	PLC L/R	—	PLC attack/recovery time set pin
33, 48	BPF MONI L/R	O	For BPF output monitoring
34, 47	FM REC OUT L/R	O	REC FM output (sinewave output)
35	CARRIER FILTER	—	Capacitor connecting pin for FM signal detection carrier filter
36	BPF f0 ADJ	—	FM BPF center frequency control pin
37	ENVE OUT	O	Envelope output of L-ch FM input signal
38	GND	—	GND for FM BPF
39	FM PB IN	I	PB FM input pin
40	NT/PAL CTRL	—	FM BPF NTSC/PAL selection
41	VCC	—	Vcc for FM BPF
42	AHSWP IN	I	Audio head switching pulse input
43	FNORM DLY	—	Delay time setting pin when recovery of the normal signal forcedly
44	HOLD CT	—	Hold time set pin
45	NOISE OUT	O	FM detector abstraction noise output
46	N BPF CTRL	—	Noise BPF center frequency set pin
64	FADER CTRL	—	Fader circuit control pin
65	AUTO/MANU CTRL	I	Hi-Fi audio line volume manual/auto control
66	EQ CTRL	—	EQ SW & envelope detection sensitivity control
67	NA FB	—	Normal audio line AMP feedback pin
68	NA ALC	—	Normal audio line AMP ALC time constant set pin
69	NA PB IN	I	Normal audio line AMP PB input
70	NA PB OUT	O	Normal audio PB AMP output
71	PB EQ	—	Normal audio PB AMP EQ SW
72	NA PB NFB	—	Normal audio PB AMP feedback
73	NA HEAD IN	I	Normal audio PB signal input
74	HEAD EQ	—	Head resonance EQ SW pin
75	GND	—	Normal audio GND
76	REC HSW CTRL	O	High voltage head switch (BA7755) control out
77	REC EQ	—	REC EQ SW
78	NA REC FB	—	Normal audio REC AMP feedback pin
79	NA REC OUT	O	Normal audio REC AMP output
80	PB/$\overline{\text{EE}}$ CTRL	O	PB/$\overline{\text{EE}}$ control pin
81	REC/$\overline{\text{EE}}$ CTRL	O	REC/$\overline{\text{EE}}$ control
82	MODE IND L/R	O	Driver output for mode display
83	GND	—	GND of input/output switch
84	R/L/ST CTRL	O	Right/left/stereo mode select control

BH7771KS (HiFi & NORMAL AUDIO SIGNAL PROCESSOR)

PIN No	PORT NAME	I/O	FUNCTION
85	H/M/N CTRL	O	Hi-Fi/MIX/NORMAL select control
86, 87	HIFI OUT L/R	O	PNR audio output
88, 89	HIFI IN L/R	I	Hi-Fi audio input of output switcher
90	VCC	—	Power supply to internal regulator (+5 V)
91	ERP	O	Vcc regulator error output
92	VREFP	—	1/2 Vcc reference voltage (+2.5 V)
93	GND	—	GND for input/output switches
94	VREFM	—	1/2 Vee reference voltage (–2.5 V)
95	ERM	O	Vee regulator error output
96	VEE	—	Power supply to internal regulator (–5 V)
97, 98	LINE OUT L/R	O	Line output of L-ch and R-ch
99	MIX OUT	O	MIXER AMP output for RF converter
100	MIX ALC	—	ALC time constant set pin for MIXER AMP

PNR : peak noise reduction

BA6138 (LEVEL METER DRIVE)


POWER SUPPLY (+12V)
9
Vreg
√COMP
MUT
√COMP
AUDIO SIGNAL INPUT CH-1
4
AMP
OUT
OUT
AMP
6
AUDIO SIGNAL INPUT CH-2
3
2
1
8
7
5
CH-1 DETECT
CH-1 OUTPUT
MUTEING CONTROL
CH-2 OUTPUT
CH-2 DETECT
GND

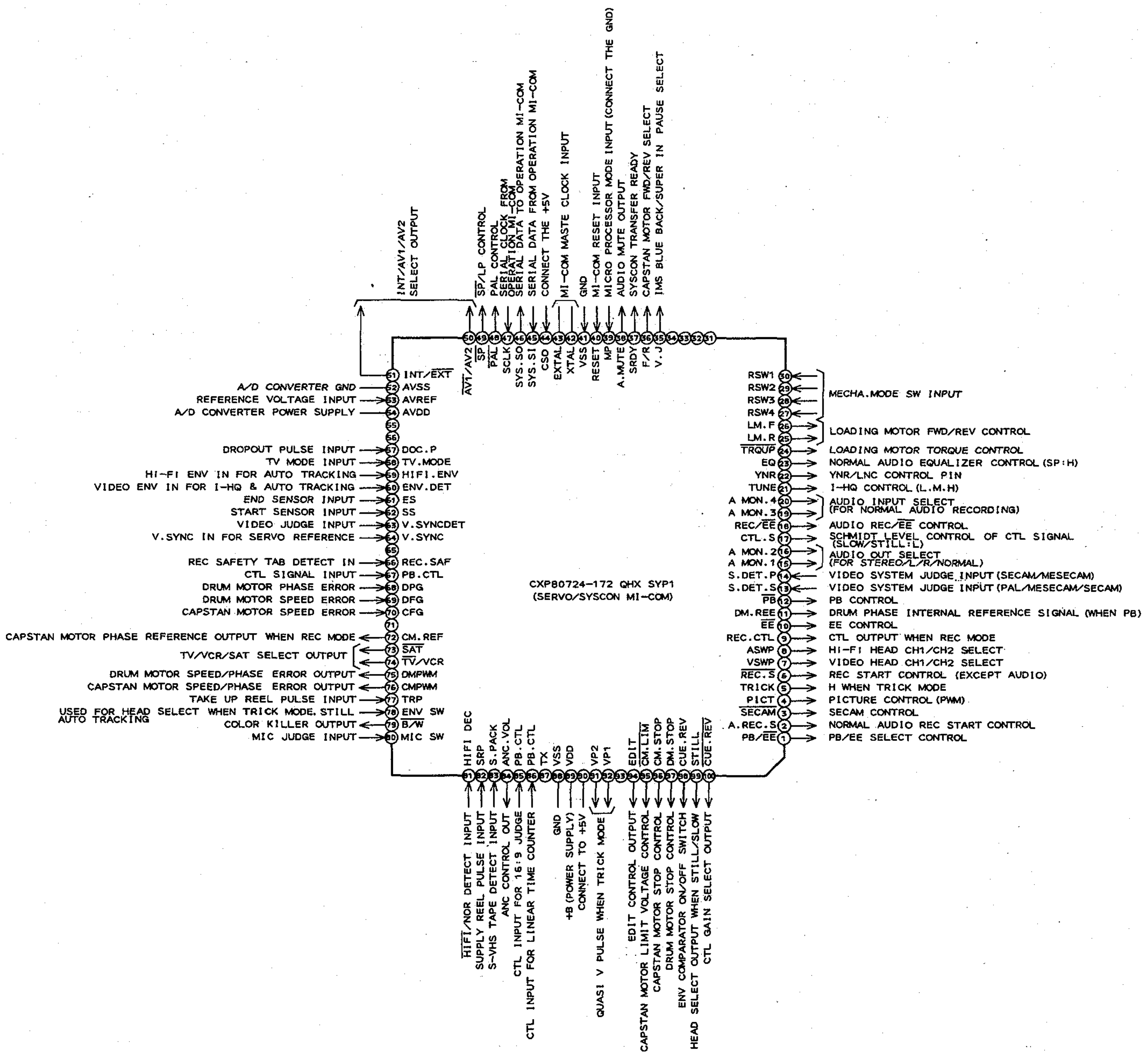
CF70091A (DIGITAL NICAM STEREO DECODER)

PIN No.	PORT NAME	I/O	FUNCTION
1	C0	O	NICAM frame flag
3	AVCC1	—	Power supply of ADC (analog)
4	CARRIN	I	Sound carrier input of ADC
5	REFT	—	ADC reference decoupling
6	AGND1	—	Analog GND
7	REFM	—	ADC reference decoupling
10	REFB	—	ADC reference decoupling
11	AVCC2	—	Power supply of VCXO (analog)
12	OSC2	O	Output of VCXO
13	AGND2	—	VCXO analog GND
14	OSC1	I	Input of VCXO
15	VCNTL	—	Filtering of VCXO
16	CIB1	O	Refer to additional information (NOTE 3)
19	NDASEL	I	NICAM data pass-through control (refer to NOTE 1)
20, 22	TEST2- 4	I	Test use only (NOTE 2)
23	FMSW	O	FM switch control output
24	NDAIN	I	De-scrambled NICAM data input
28	NDAOUT	O	De-scrambled NICAM data output
29	MUTE	O	MUTE indicator output
30	IMIDT	I	IM bus "IDENT" signal
31	SDA	I/O	I2C/IM Bus data I/O
32	SCL	I	I2C/IM Bus clock input
33, 40, 51	GND	—	Digital GND reference
35	NCOLCK	O	NICAM 728 kHz clock
36	IIDT	O	"IDENT" signal to DAC
37, 44	VCC	—	Power supply (digital)
38	ICLK	O	Serial clock to DAC
39	IDAT	O	Serial data to DAC
43	DACCLK	O	8.192/16.384 MHz clock O/P
45	ERRFLG	O	Error flag (I2S valid only) of DAC
46, 47	IND1, 2	O	Status indicator output
48	CIB2	O	Refer to additional information (NOTE 3)
52	RESET	I	Reset input (active low)
53	TEST	I	Test use only (NOTE 2)
54, 55	DASEL1, 2	I	Select DAC interface type
56	WIND2	O	Indicates when auxiliary data bits are output
60	WIND1	O	Indicates when frame alignment word & control bits are output
61	BGI	O	System standard indicator
62	BUSEL	I	Select I2C or IM bus
63	DADDR	I	Programmable address bit of serial control bus
64	AGC	O	Gain control PWM output of ADC

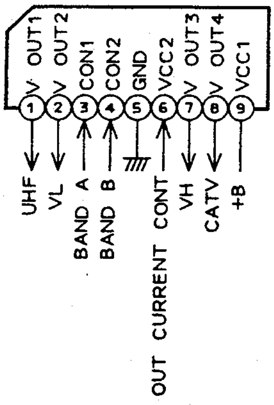
NOTE:

1. If NDASEL is tied to GND, then NDAIN will be internally connected to NDAOUT. If NDASEL is tied to Vcc, then the internal connection is broken, allowing additional de-scrambling to be inserted between NDAIN and NDAOUT.
2. Pins TEST 2-4 should be tied to Vcc. Pin TEST should eighter be left open-circuit or tied to GND.
3. CIB1 and CIB2 make available additional information encoded in parity not used in the NICAM specification, but which may have some application in scrambled NICAM systems.

CXP80724-172 QHX SYP1 (SERVO/SYSCON MI-COM)


CXP80724-172 QHX SYP1
(SERVO/SYSCON MI-COM)
INT/AV1/AV2 SELECT OUTPUT
SP/LP CONTROL
PAL CONTROL
SERIAL CLOCK FROM OPERATION MI-COM
SERIAL DATA TO OPERATION MI-COM
SERIAL DATA FROM OPERATION MI-COM
CONNECT THE +5V
MI-COM MASTE CLOCK INPUT
GND
MI-COM RESET INPUT
MICRO PROCESSOR MODE INPUT (CONNECT THE GND)
AUDIO MUTE OUTPUT
SYSCON TRANSFER READY
CAPSTAN MOTOR FWD/REV SELECT
IMS BLUE BACK/SUPER IN PAUSE SELECT
50 AV1/AV2
49 SP
48 PAL
47 SCLK
46 SYS.SO
45 SYS.SI
44 CSO
43 EXTAL
42 XTAL
41 VSS
40 RESET
39 MP
38 A.MUTE
37 SRDY
36 F/R
35 V.J
34
33
32
31
51 INT/EXT
A/D CONVERTER GND 52 AVSS
REFERENCE VOLTAGE INPUT 53 AVREF
A/D CONVERTER POWER SUPPLY 54 AVDD
55
56
DROPOUT PULSE INPUT 57 DOC.P
TV MODE INPUT 58 TV.MODE
HI-FI ENV IN FOR AUTO TRACKING 59 HIFI.ENV
VIDEO ENV IN FOR I-HQ & AUTO TRACKING 60 ENV.DET
END SENSOR INPUT 61 ES
START SENSOR INPUT 62 SS
VIDEO JUDGE INPUT 63 V.SYNCDET
V.SYNC IN FOR SERVO REFERENCE 64 V.SYNC
65
REC SAFETY TAB DETECT IN 66 REC.SAF
CTL SIGNAL INPUT 67 PB.CTL
DRUM MOTOR PHASE ERROR 68 DPG
DRUM MOTOR SPEED ERROR 69 DFG
CAPSTAN MOTOR SPEED ERROR 70 CFG
71
CAPSTAN MOTOR PHASE REFERENCE OUTPUT WHEN REC MODE 72 CM.REF
TV/VCR/SAT SELECT OUTPUT 73 SAT
74 TV/VCR
DRUM MOTOR SPEED/PHASE ERROR OUTPUT 75 DMPWM
CAPSTAN MOTOR SPEED/PHASE ERROR OUTPUT 76 CMPWM
TAKE UP REEL PULSE INPUT 77 TRP
USED FOR HEAD SELECT WHEN TRICK MODE. STILL AUTO TRACKING 78 ENV SW
COLOR KILLER OUTPUT 79 B/W
MIC JUDGE INPUT 80 MIC SW
81 HIFI DEC
82 SRP
83 S.PACK
84 ANC.VOL
85 PB.CTL
86 PB.CTL
87 TX
88 VSS
89 VDD
90
91 VP2
92 VP1
93
94 EDIT
95 CM.LIM
96 CM.STOP
97 DM.STOP
98 CUE.REV
99 STILL
100 CUE.REV
HIFI/NOR DETECT INPUT
SUPPLY REEL PULSE INPUT
S-VHS TAPE DETECT INPUT
ANC CONTROL OUT
CTL INPUT FOR 16:9 JUDGE
CTL INPUT FOR LINEAR TIME COUNTER
GND
+B (POWER SUPPLY)
CONNECT TO +5V
QUASI V PULSE WHEN TRICK MODE
EDIT CONTROL OUTPUT
CAPSTAN MOTOR LIMIT VOLTAGE CONTROL
CAPSTAN MOTOR STOP CONTROL
DRUM MOTOR STOP CONTROL
ENV COMPARATOR ON/OFF SWITCH
HEAD SELECT OUTPUT WHEN STILL/SLOW
CTL GAIN SELECT OUTPUT
RSW1 30
RSW2 29
RSW3 28
RSW4 27
MECHA.MODE SW INPUT
LM.F 26
LM.R 25
LOADING MOTOR FWD/REV CONTROL
TRQUP 24 LOADING MOTOR TORQUE CONTROL
EQ 23 NORMAL AUDIO EQUALIZER CONTROL (SP:H)
YNR 22 YNR/LNC CONTROL PIN
TUNE 21 I-HQ CONTROL (L.M.H)
A MON.4 20
A MON.3 19
AUDIO INPUT SELECT (FOR NORMAL AUDIO RECORDING)
REC/EE 18 AUDIO REC/EE CONTROL
CTL.S 17 SCHMIDT LEVEL CONTROL OF CTL SIGNAL (SLOW/STILL:L)
A MON.2 16
A MON.1 15
AUDIO OUT SELECT (FOR STEREO/L/R/NORMAL)
S.DET.P 14 VIDEO SYSTEM JUDGE INPUT (SECAM/MESECAM)
S.DET.S 13 VIDEO SYSTEM JUDGE INPUT (PAL/MESECAM/SECAM)
PB 12 PB CONTROL
DM.REE 11 DRUM PHASE INTERNAL REFERENCE SIGNAL (WHEN PB)
EE 10 EE CONTROL
REC.CTL 9 CTL OUTPUT WHEN REC MODE
ASWP 8 HI-FI HEAD CH1/CH2 SELECT
VSWP 7 VIDEO HEAD CH1/CH2 SELECT
REC.S 6 REC START CONTROL (EXCEPT AUDIO)
TRICK 5 H WHEN TRICK MODE
PICT 4 PICTURE CONTROL (PWM)
SECAM 3 SECAM CONTROL
A.REC.S 2 NORMAL AUDIO REC START CONTROL
PB/EE 1 PB/EE SELECT CONTROL

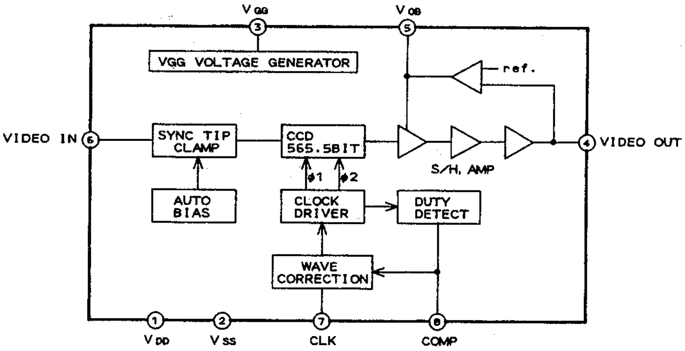
LA7910 (TUNER BAND SELECTOR)


V OUT1
V OUT2
CON1
CON2
GND
VCC2
V OUT3
V OUT4
VCC1
1
2
3
4
5
6
7
8
9
UHF
VL
BAND A
BAND B
OUT CURRENT CONT
VH
CATV
+B

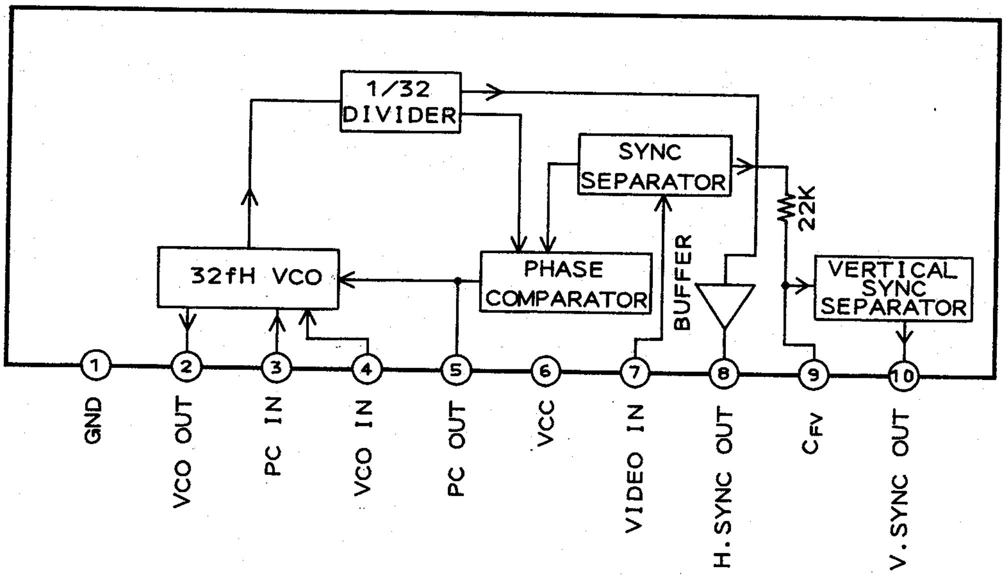
INPUT		OUTPUT			
CON1	CON2	V OUT1	V OUT2	V OUT3	V OUT4
L	L	H	Z	Z	Z
H	L	Z	H	Z	Z
L	H	Z	Z	H	Z
H	H	Z	Z	Z	H

Z:HIGH IMPEDANCE

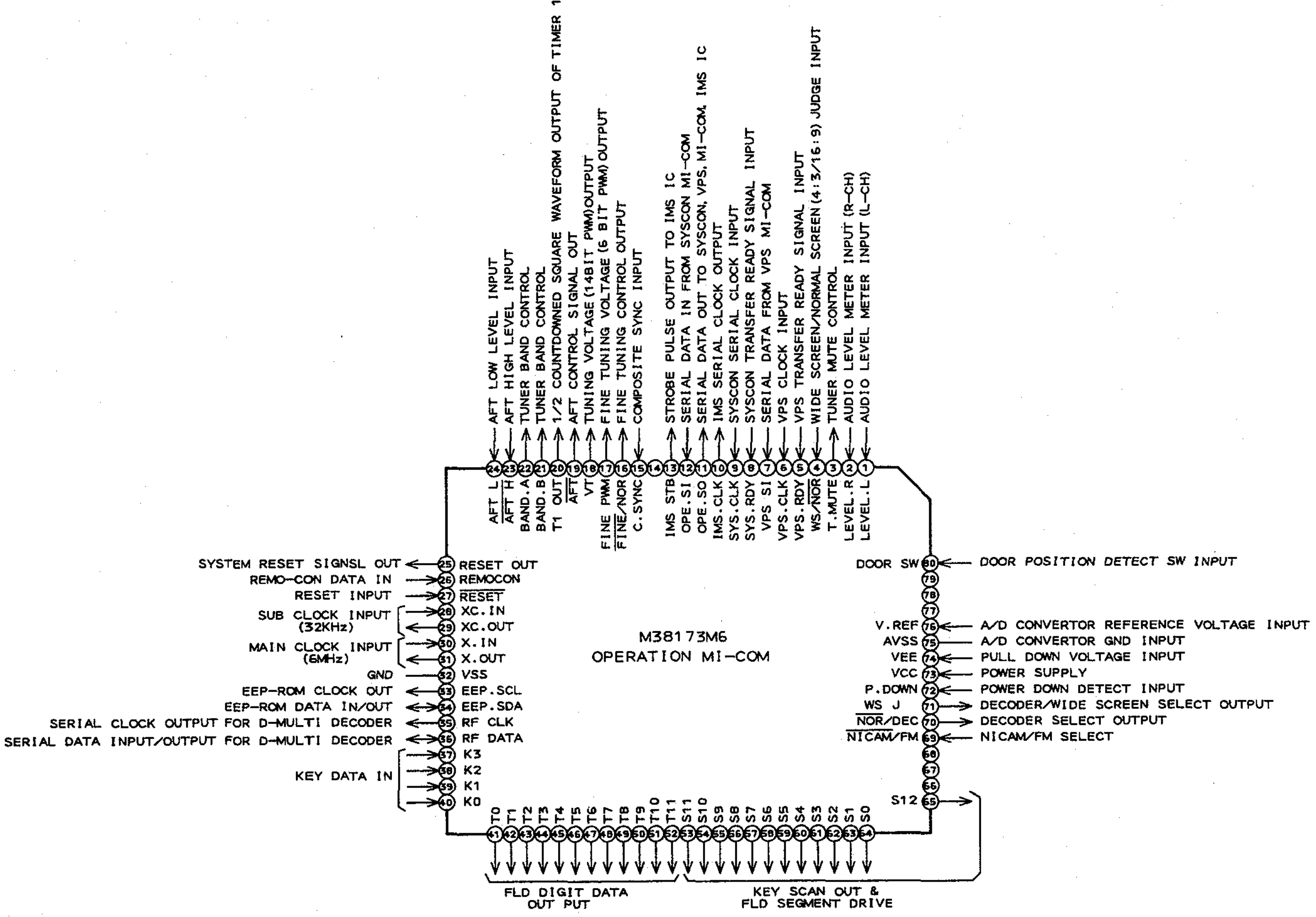
LC8992 (CCD 1H DELAY LINE)


V GG
V OB
3
5
VGG VOLTAGE GENERATOR
ref.
VIDEO IN
6
SYNC TIP CLAMP
CCD 565.5BIT
4
VIDEO OUT
S/H, AMP
ϕ1
ϕ2
AUTO BIAS
CLOCK DRIVER
DUTY DETECT
WAVE CORRECTION
1
2
7
8
V DD
V SS
CLK
COMP

MM1068XS (SYNC SEPARATOR)

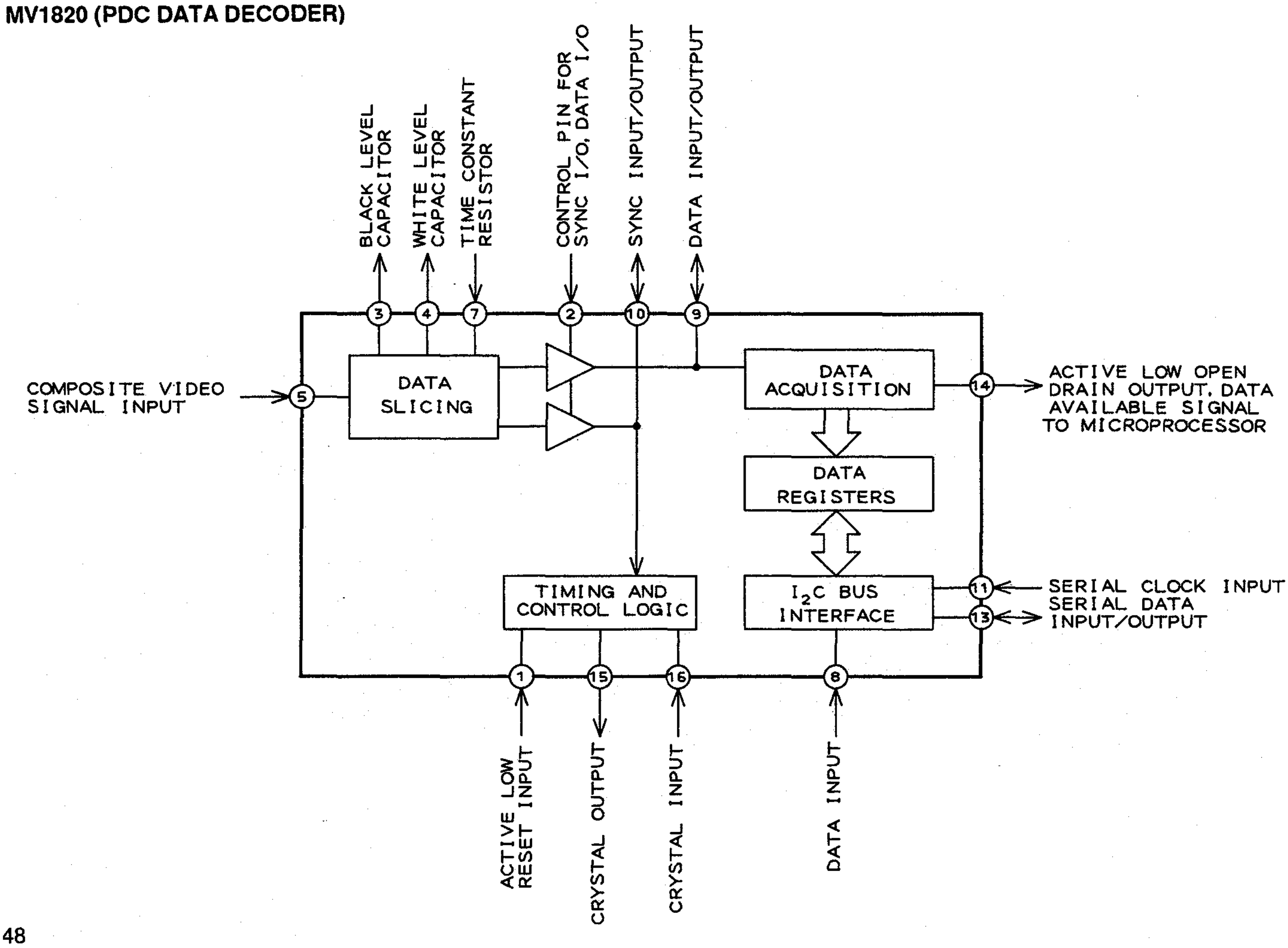

1/32 DIVIDER
SYNC SEPARATOR
22K
32fH VCO
PHASE COMPARATOR
BUFFER
VERTICAL SYNC SEPARATOR
1
2
3
4
5
6
7
8
9
10
GND
VCO OUT
PC IN
VCO IN
PC OUT
VCC
VIDEO IN
H.SYNC OUT
CFV
V.SYNC OUT

M38173M6 (OPERATION MI-COM)



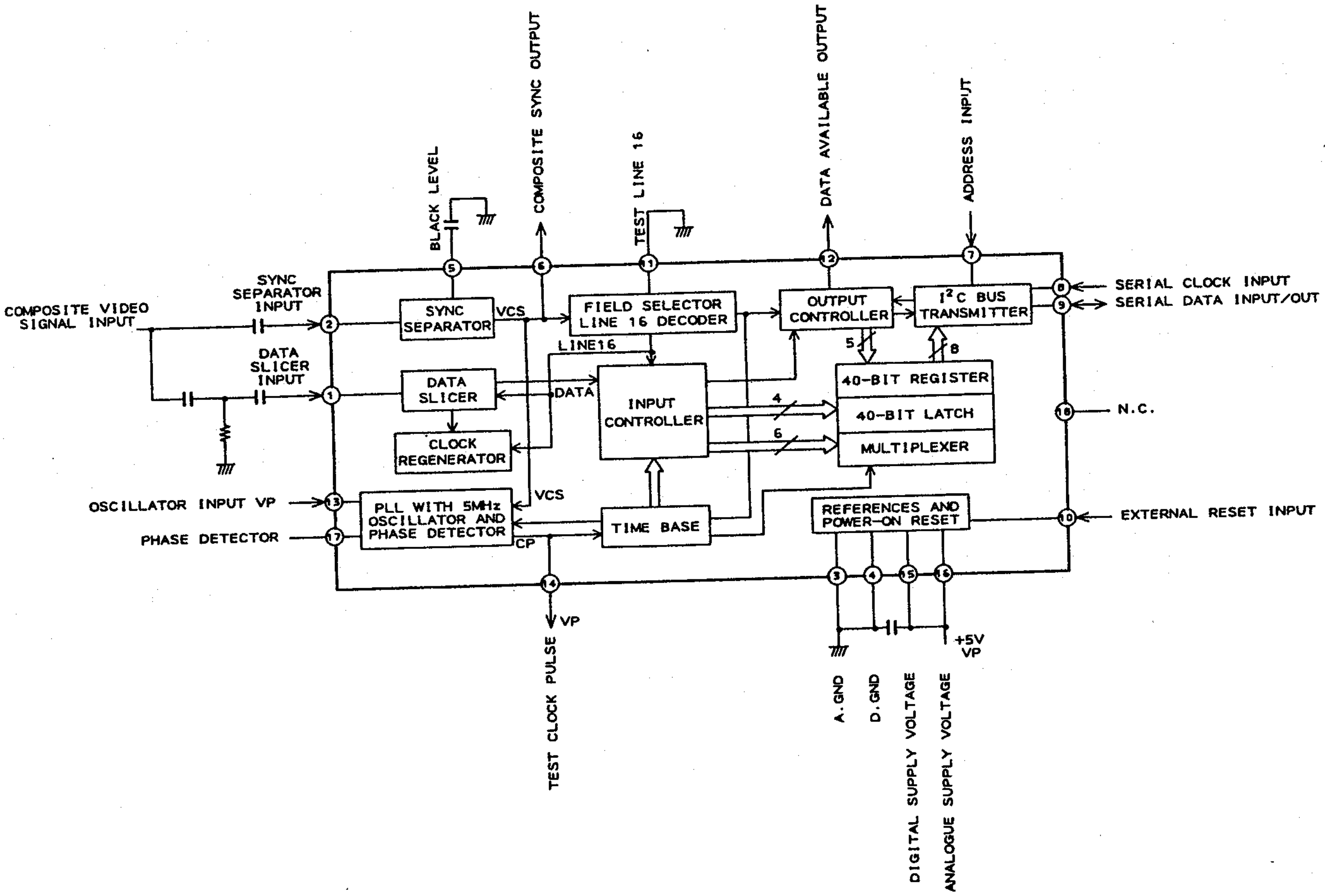
M38173M6
OPERATION MI-COM
AFT LOW LEVEL INPUT
AFT HIGH LEVEL INPUT
TUNER BAND CONTROL
TUNER BAND CONTROL
1/2 COUNTDOWNED SQUARE WAVEFORM OUTPUT OF TIMER 1
AFT CONTROL SIGNAL OUT
TUNING VOLTAGE (14BIT PWM) OUTPUT
FINE TUNING VOLTAGE (6 BIT PWM) OUTPUT
FINE TUNING CONTROL OUTPUT
COMPOSITE SYNC INPUT
STROBE PULSE OUTPUT TO IMS IC
SERIAL DATA IN FROM SYSCON MI-COM
SERIAL DATA OUT TO SYSCON, VPS, MI-COM, IMS IC
IMS SERIAL CLOCK OUTPUT
SYSCON SERIAL CLOCK INPUT
SYSCON TRANSFER READY SIGNAL INPUT
SERIAL DATA FROM VPS MI-COM
VPS CLOCK INPUT
VPS TRANSFER READY SIGNAL INPUT
WIDE SCREEN/NORMAL SCREEN (4:3/16:9) JUDGE INPUT
TUNER MUTE CONTROL
AUDIO LEVEL METER INPUT (R-CH)
AUDIO LEVEL METER INPUT (L-CH)
24 AFT L
23 AFT H
22 BAND.A
21 BAND.B
20 T1 OUT
19 AFT
18 VT
17 FINE PWM
16 FINE/NOR
15 C.SYNC
14
13 IMS STB
12 OPE.SI
11 OPE.SO
10 IMS.CLK
9 SYS.CLK
8 SYS.RDY
7 VPS SI
6 VPS.CLK
5 VPS.RDY
4 WS/NOR
3 T.MUTE
2 LEVEL.R
1 LEVEL.L
SYSTEM RESET SIGNSL OUT
REMO-CON DATA IN
RESET INPUT
SUB CLOCK INPUT (32KHz)
MAIN CLOCK INPUT (6MHz)
GND
EEP-ROM CLOCK OUT
EEP-ROM DATA IN/OUT
SERIAL CLOCK OUTPUT FOR D-MULTI DECODER
SERIAL DATA INPUT/OUTPUT FOR D-MULTI DECODER
KEY DATA IN
25 RESET OUT
26 REMOCON
27 RESET
28 XC.IN
29 XC.OUT
30 X.IN
31 X.OUT
32 VSS
33 EEP.SCL
34 EEP.SDA
35 RF CLK
36 RF DATA
37 K3
38 K2
39 K1
40 K0
DOOR SW 80
DOOR POSITION DETECT SW INPUT
79
78
77
V.REF 76
A/D CONVERTOR REFERENCE VOLTAGE INPUT
AVSS 75
A/D CONVERTOR GND INPUT
VEE 74
PULL DOWN VOLTAGE INPUT
VCC 73
POWER SUPPLY
P.DOWN 72
POWER DOWN DETECT INPUT
WS J 71
DECODER/WIDE SCREEN SELECT OUTPUT
NOR/DEC 70
DECODER SELECT OUTPUT
NICAM/FM 69
NICAM/FM SELECT
68
67
66
S12 65
T0 T1 T2 T3 T4 T5 T6 T7 T8 T9 T10 T11
S11 S10 S9 S8 S7 S6 S5 S4 S3 S2 S1 S0
41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64
FLD DIGIT DATA OUT PUT
KEY SCAN OUT & FLD SEGMENT DRIVE

MV1820 (PDC DATA DECODER)



BLACK LEVEL CAPACITOR
WHITE LEVEL CAPACITOR
TIME CONSTANT RESISTOR
CONTROL PIN FOR SYNC I/O, DATA I/O
SYNC INPUT/OUTPUT
DATA INPUT/OUTPUT
3
4
7
2
10
9
COMPOSITE VIDEO SIGNAL INPUT
5
DATA SLICING
DATA ACQUISITION
14
ACTIVE LOW OPEN DRAIN OUTPUT. DATA AVAILABLE SIGNAL TO MICROPROCESSOR
DATA REGISTERS
TIMING AND CONTROL LOGIC
I2C BUS INTERFACE
11
SERIAL CLOCK INPUT
13
SERIAL DATA INPUT/OUTPUT
1
15
16
8
ACTIVE LOW RESET INPUT
CRYSTAL OUTPUT
CRYSTAL INPUT
DATA INPUT

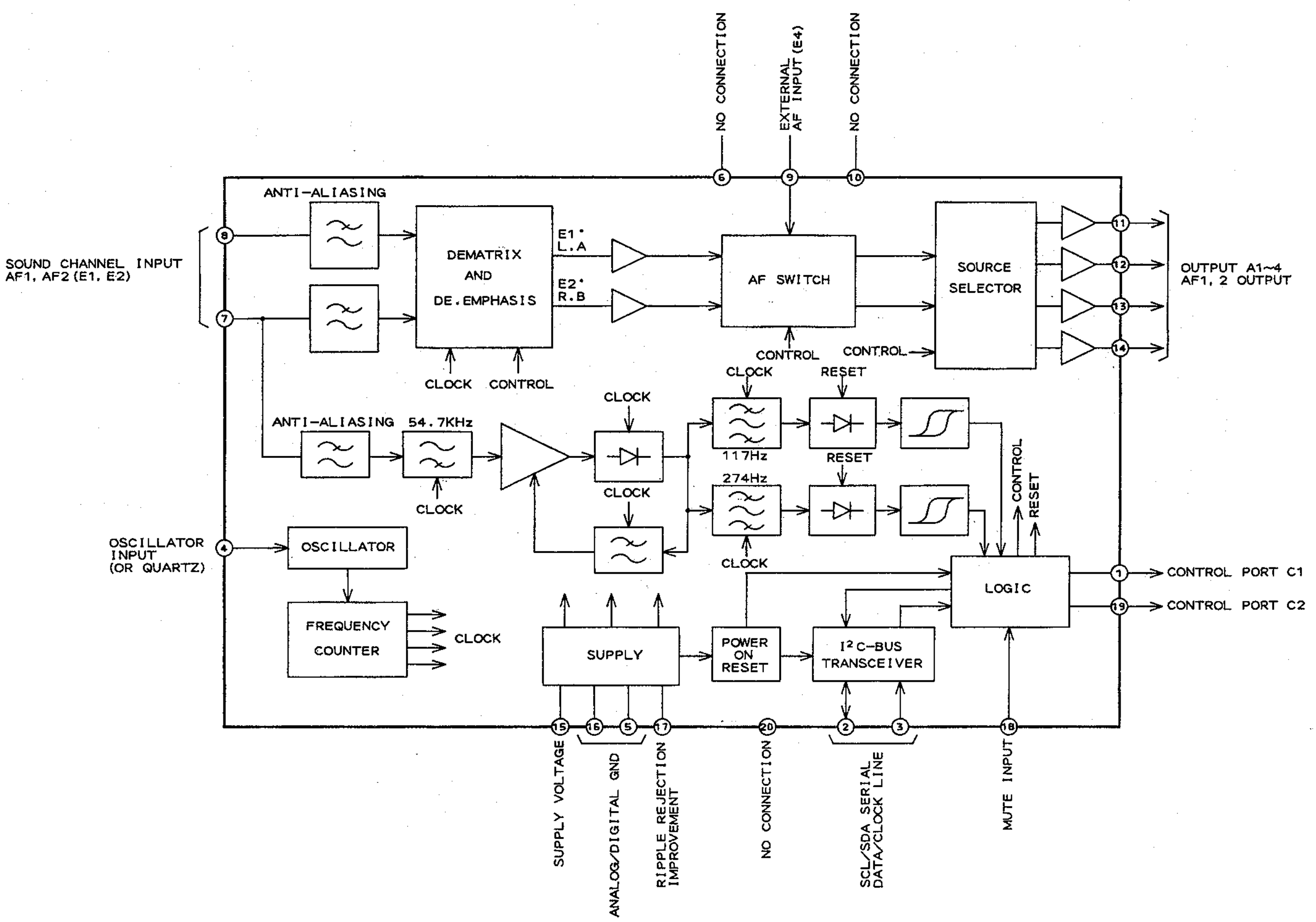
SAA4700 (VPS DATA LINE PROCESSOR)


BLACK LEVEL
COMPOSITE SYNC OUTPUT
TEST LINE 16
DATA AVAILABLE OUTPUT
ADDRESS INPUT
COMPOSITE VIDEO SIGNAL INPUT
SYNC SEPARATOR INPUT
DATA SLICER INPUT
SYNC SEPARATOR
VCS
FIELD SELECTOR LINE 16 DECODER
OUTPUT CONTROLLER
I²C BUS TRANSMITTER
SERIAL CLOCK INPUT
SERIAL DATA INPUT/OUT
LINE16
DATA SLICER
DATA
INPUT CONTROLLER
40-BIT REGISTER
40-BIT LATCH
MULTIPLEXER
N.C.
CLOCK REGENERATOR
OSCILLATOR INPUT VP
PHASE DETECTOR
PLL WITH 5MHz OSCILLATOR AND PHASE DETECTOR
VCS
CP
TIME BASE
REFERENCES AND POWER-ON RESET
EXTERNAL RESET INPUT
5
8
4
6
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
VP
+5V VP
TEST CLOCK PULSE
A. GND
D. GND
DIGITAL SUPPLY VOLTAGE
ANALOGUE SUPPLY VOLTAGE

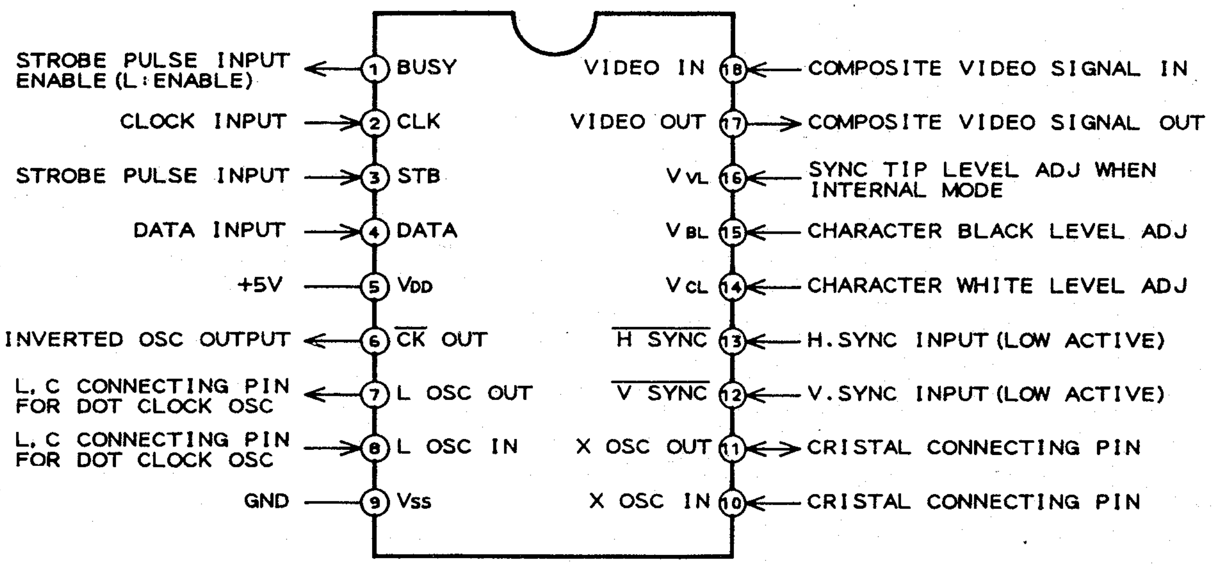
TDA1305T (D/A CONVERTOR)

PIN No	PORT NAME	I/O	FUNCTION
1	VDDa	—	Power supply (Analog)
2	VSSa	—	GND (Analog)
3	TEST1	—	Test input (Connect to GND)
4	BCK	I	Bit clock input
5	WS	I	Word select input
6	DATA	I	Data input
7, 8	CKSL1, 2	I	Clock selection
9	VSSd	—	GND (Digital)
10	VDDd	—	Power supply (Digital)
11	TEST2	—	Test input (Connect to GND)
12	X IN	I	Crystal oscillator input
13	X OUT	O	Crystal oscillator output
14	VDDx	—	Power supply for Crystal oscillator
15	VSSx	—	Crystal oscillator GND
16	CDEC	O	System clock output
17,18	DEEM1, 2	I	De-emphasis ON/OFF, Deem 32 kHz, 44 kHz, 48 kHz
19	MUSB	I	Active low muting
20	DSMB	I	Active low double speed mode
21	ATSB	I	Active low –12 dB attenuation
22	VOL	O	Left channel output
23	FILTCL	O	Capacitor for left channel first order filter
24	FILTCR	O	Capacitor for right channel first order filter
25	VOR	O	Right channel output
26	VREF	—	Internal reference voltage for output channels (0.5 V Type)
27	VSSo	—	GND for OP-AMP
28	VDDo	—	Power supply for OP-AMP

TDA8417 (MULTIPLXED DECODER)


NO CONNECTION
EXTERNAL AF INPUT (E4)
NO CONNECTION
6
9
10
ANTI-ALIASING
SOUND CHANNEL INPUT AF1, AF2 (E1, E2)
8
7
DEMATRIX AND DE.EMPHASIS
E1' L.A
E2' R.B
AF SWITCH
SOURCE SELECTOR
11
12
13
14
OUTPUT A1~4 AF1, 2 OUTPUT
CLOCK
CONTROL
CONTROL
CONTROL
CLOCK
RESET
CLOCK
ANTI-ALIASING
54.7KHz
CLOCK
117Hz
RESET
274Hz
CLOCK
CONTROL
RESET
CLOCK
OSCILLATOR INPUT (OR QUARTZ)
4
OSCILLATOR
LOGIC
1
CONTROL PORT C1
19
CONTROL PORT C2
FREQUENCY COUNTER
CLOCK
SUPPLY
POWER ON RESET
I²C-BUS TRANSCEIVER
15
16
5
17
20
2
3
18
SUPPLY VOLTAGE
ANALOG/DIGITAL GND
RIPPLE REJECTION IMPROVEMENT
NO CONNECTION
SCL/SDA SERIAL DATA/CLOCK LINE
MUTE INPUT

µPD6450 (CHARACTER GENERATOR)


STROBE PULSE INPUT ENABLE (L: ENABLE)
1 BUSY
CLOCK INPUT
2 CLK
STROBE PULSE INPUT
3 STB
DATA INPUT
4 DATA
+5V
5 VDD
INVERTED OSC OUTPUT
6 CK OUT
L, C CONNECTING PIN FOR DOT CLOCK OSC
7 L OSC OUT
L, C CONNECTING PIN FOR DOT CLOCK OSC
8 L OSC IN
GND
9 Vss
VIDEO IN 18
COMPOSITE VIDEO SIGNAL IN
VIDEO OUT 17
COMPOSITE VIDEO SIGNAL OUT
VVL 16
SYNC TIP LEVEL ADJ WHEN INTERNAL MODE
VBL 15
CHARACTER BLACK LEVEL ADJ
VCL 14
CHARACTER WHITE LEVEL ADJ
H SYNC 13
H.SYNC INPUT (LOW ACTIVE)
V SYNC 12
V.SYNC INPUT (LOW ACTIVE)
X OSC OUT 11
CRISTAL CONNECTING PIN
X OSC IN 10
CRISTAL CONNECTING PIN

Part No.	Ref. No.
ET397160J	6-TR214
ET397160J	6-TR218
ET397160J	6-TR238
ET397160J	6-TR239
ET397160J	6-TR240
ET397160J	6-TR351
ET397160J	6-TR352
ET397160J	6-TR403
ET397160J	6-TR404
ET397160J	6-TR414
ET397160J	7-TR705
ET397160J	7-TR707
ET397160J	8-TR1
ET397160J	8-TR8
ET397160J	8-TR9
ET397160J	8-TR10
ET397160J	8-TR15
ET397160J	8-TR16
ET397160J	8-TR17
ET397160J	8-TR103
ET397160J	12-TR3
ET397160J	12-TR6
ET397160J	14-TR1
ET397160J	14-TR2
ET397160J	14-TR101
ET397160J	14-TR102
ET397160J	15-TR1
ET397160J	15-TR2
ET397160J	15-TR3
ET397160J	15-TR4
ET397160J	17-TR101
ET397160J	17-TR102
ET397160J	17-TR103
ET397160J	17-TR104
ET397160J	17-TR105
ET397160J	17-TR106
ET397160J	19-TR1
ET397160J	20-TR251
ET404498J	6-TR18
ET404498J	6-TR101
ET404498J	6-TR104
ET408826J	9-TR2
ET408826J	9-TR3
ET408826J	9-TR4
ET411995J	9-PH1
ET413009J	24-TR1
ET414816J	6-TR9
ET416588J	12-TR4
ET416588J	12-TR7
ET416589J	12-TR8
ET416600J	12-TR1
ET416600J	12-TR2
ET416601J	12-TR5
ET416622J	6-TR107
ET416640J	10-PH201
ET713614	11-Q5
ET713614	11-Q8
ET725820J	11-Q1
ET731437J	11-Q2
ET731437J	11-Q3
ET732638J	11-Q7
EV389476J	6-VR205
EV389476J	6-VR403
EV389476J	6-VR405
EV389476J	6-VR408
EV389476J	6-VR410
EV389478J	6-VR406
EV389482J	6-VR203
EV389489J	6-VR204
EV394962J	14-VR101
EV394962J	15-VR1
EV397066J	6-VR201
EV397066J	6-VR409
EV403988J	8-VR1
EV404249J	8-VR2
EV416648J	9-VR1
EV416657J	6-VR404
EV416657J	6-VR407
EV732502J	11-VR3-A
EV733235J	11-VR1
EV733235J	11-VR2
EV733548J	11-VR3-B
EW348414	22-1
EW389313J	4-20
EW412522J	21-8-C
EW412523J	21-8-A
EW412524J	21-8-B
EW416578J	8-1
EW416579J	9-1
EW416580J	9-2
EX405691J	8-TH1
EX412521J	12-TH1
EZ415491J	23-6-A
EZ417288J	23-6-C
EZ417487J1	23-6-B
EZ418326J	23-6-D
HE390013J	3-20
HR405340J	3-13
HZ408193J	21-9
MA387474J3	2-6
MB387289J	4-11
MB414326J	23-3
MI387294J1	3-10
ML387277J4	3-32
ML387311J2	4-42
ML387316J	3-1
ML387318J	3-2
ML387321J1	3-4
ML387324J1	4-1
ML387344J	3-54
ML387345J	3-51
ML387346J1	3-53
ML387349J2	3-56
ML387350J1	3-47
ML387402J1	4-3
ML387423J	3-6
ML387428J	3-39
ML387431J1	3-31
ML390768J4	3-25
ML391745J3	3-41
ML404944J	4-2
MP404852J	3-27
MR387406J	4-35
MR391968J	4-33
MR407378J1	3-18
MS416448J	21-18
MT390954J1	3-9
MT407370J	3-63
MZV1102A090A	4-25
MZV1102A100A	4-26
MZ387298J5	4-7
MZ387331J2	4-29
MZ387332J	4-28
MZ387333J1	4-30
MZ387335J	3-40
MZ387430J	4-21
MZ387445J	4-22
MZ387446J	4-23
MZ406134J	3-58
MZ407375J1	3-17
MZ409537J	4-32
MZ416447J	21-17
MZ416450J	21-19
SA404140J	21-11
SC414324J	23-17
SC416262J	21-6
SE395554J1	3-57
SE416443J	21-21
SK414322J	23-15
SK416140J	21-13
SP416142J	21-1
SP416265J	17-1-B
SP416266J	17-1-A
SP417253J	17-1-C
SP417684J	17-1-D
SZ387388J	2-4
SZ407187J2	3-24
SZ407193J	21-20
VT387394J1	3-37
VT401282J	2-13
ZG387272J	3-26
ZG387282J	3-33
ZG387320J	3-3
ZG387323J	3-5
ZG387348J1	3-49
ZG387354J	21-10
ZG387370J	21-22
ZG387403J	4-5
ZG387413J1	4-27
ZG387417J	3-44
ZG387418J	3-45
ZG387420J1	3-55
ZG387421J	3-50
ZG387438J1	3-11
ZG387443J	4-34
ZG387467J	3-7
ZG387468J	4-4
ZG387502J	4-38
ZG388290J1	3-52
ZG392294J	3-61
ZG392831J	3-46
ZG395567J	3-42
ZG404846J	3-29
ZG414335J	23-13
ZG415292J	24-1
ZG415294J	24-2
ZS321298	2-3
ZS321298	3-15
ZS336714	2-12
ZS336714	3-22
ZS358936	2-5
ZS358936	3-59
ZS358936	4-41
ZS358936	21-14
ZS362378	21-4
ZS365149	4-10
ZS373962	21-5
ZS374458	3-38
ZS379350	2-11
ZS379364	21-25
ZS385611J	21-3
ZS388079J	21-12
ZS389950J	4-40
ZS389965J	21-15
ZS391046J	21-2
ZS404844J	3-14
ZS409216J	2-14
ZS409216J	3-16
ZS410851J	3-12
ZS414462J	23-12
ZS415396J	23-18
ZS416449J1	21-16
ZS425981	4-36
ZS464703	3-28
ZS467796	2-9
ZS563444	2-7
ZW332843	3-30
ZW387492J	4-8
ZW389814J	3-8
ZW389923J	4-6
ZW401776J	3-34
ZW409602J	3-19
ZW410733J	3-62

ABBREVIATIONS (VIDEO)

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
A	Audio or Analogue	MOD	MODulator
AC	Alternating Current	MRS	Motor ReverSe
ACC	Automatic Color Control	NAP	Ntsc Amusement Pal
A/C	Audio and Control	NG	Noise Gate
ADJ	ADJust (ment)	NICAM	Near Instanteneous Compand Audio Multiplex
AFC	Automatic Frequency Control	NON-LIN	NON-LINear
AFT	Automatic Fine Tuning	N.T.S.C.	National Television System Committee
AGC	Automatic Gain Control	OSC	OSCillator
AH	Audio Head	PAL	Phase Alternation by Line
AL	ALways (voltage)	PB	Play Back
ALC	Automatic Level Control	PCB (P.C.B)	Printed Circuit Board
A-SW.P	Audio SWitching Pulse	P-COM	Phase-COMparator
A-MUTE	Audio MUTE	P DOWN	Power DOWN
ANT	ANTenna	PG	Pulse Generator
APC	Automatic Phase Control	P.I.P	Picture In Picture
ASSY	ASSemblY	PL, PLG	PLunger (PLunGer)
BAL	BALance	PRG (PGM)	PRoGram (ProGraM)
B DOWN	Break DOWN	PU	Pick UP (head, pulse)
BGP	Burst Gate Pulse	PWR	PoWeR
BLK	BLocK or BLacK	Q	Quality factor
BOP	Blank Output Pulse	R	Right
BPF	Band Pass Filter	RAM	Random Access Memory
BU	Back Up (voltage)	REC	RECord
B/W	Black and White	REF	REFerence
C	Chroma or Color	REF-V	REFerence Vertical signal
CCD	Charge Coupled Device	REG	REGulator
CCIR	Comitè Consultatif International des Radio communications	REV (REVW)	REView (REVieW)
CH (ch)	CHannel (channel)	REW	REWind
CLK	CLocK	RF	Radio Frequency
CM	Capstan Motor	ROM	Read Only Memory
CN	CoNnector	R.S SW	Record-Safety SWitch
COMP	COMParator	RST (RES)	ReSet (RESet)
CSW	Cassette SWitch	RVS	ReVerSe
CSYNC	Composite SYNC	S	Sensor, Shield
CTL	ConTrol	SAW	Surface Acoustic Wave
CUE	CUE	SC	SimulCast
DAC	Digital to Analog Converter	S CLK	Serial CLocK
DC	Direct Current	SECAM	SÉquèntiel Couleur À Mémoire
DEMOD	DEMODulator	S & H	Sample and Hold
DET	DETetct (DETector)	SLP	Super Long Play
DL	Delay Line	SP	Standard Play
DM	Drum Motor	SPD	SPeeD
DOC	Drop Out Compensator	SRP	Supply Reel Pulse
D.P.E	Drum Phase Error	SRV	SeRVo
D.PG	Drum Pulse Generator	SOW	Sync On Word
EE	Electronic to Electronic	STBY	STandBY
EF	Emitter Follower	S.VHS	Super VHS
EMPHA	EMPHAsis	SW	SWitch
ENV	ENVelope	SW'NG	SWitchiNG
EP	Extended Play	SWP	SWitching Pulse
EP ROM	Erasable Programmable ROM	SYNC	SYNChronize
EQ	EQualizer	T-AUDIO	Tuner AUDIO
FE	Full track Erase	TPZ (TRAPE)	TraPeZoid (TRAPEzoid)
FF	Flip-Flop or Fast Foward	TRK	TRacKing
FG	Frequency Generator	TRP	Take up Reel Pulse
Fig	Figure	T/U	Take Up
FLD	FLuorescent Display	TV	TeleVision
FM	Frequency Modulation	UHF	Ultra High Frequency
Fo	resonance Frequency	UNR	UNRegulated (voltage)
FREQ	FREQuency	V	Vertical or Video
GND	GrouND	VASS	Video Address Search System
H	Horizontal	VCO	Voltage Controlled Oscillator
HP	Horizontal (sync) pulse	VH	Video Head
HPF	High Pass Filter	VHF	Very High Frequency
HQ	High Quality System	VHS	Video Home System
IC	Integrated Circuit	VIF	Video Intermediate Frequency
ID	IDentification	VISS	Video Index Search System
IDL	IDLe (Voltage)	VJ	Video Judge
IMS	Interactive Monitor System	VM	Voltage for Memory
INS	INSert	VOB	Video On Blank
INV	INVerter	VOW	Video On Word
L	Left	VP	Vertical (sync) Pulse
LED	Light Emitting Diode	VPS	Video Program System
LIM	LIMitter	VPT	Video Programming by video Text
LM	Loading Motor	VT	Voltage for Tuning
LM STP	Loading Motor STop	WHT	WHiTe
LP	Long Play	Y	Luminance
LPF	Low Pass Filter	2H	2 Hour (SP)
ME-SECAM	Middle East SECAM	4H	4 Hour (LP)
MI-COM	MIcro COMputer	6H	6 Hour (SLP/EP)
MM	Mono-stayble Multi		

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